RESOLUTION

Simon Lang

Document type:	Master Thesis
University:	University of the Arts Bremen
Study Programme:	Digital Media (M.A.)
Student:	Simon Lang (33283)
Primary Supervisor:	Dr. Petra Klusmeyer
Second Supervisor:	Prof. Dr. Fahim Amir

Front cover designed by Simon Lang
Graphics, if not credited, designed by Simon Lang

Typeface Textbody:	EB Garamond
Typeface Title:	Torwelten Mono

Contents

I	Content
II	Abstract
III	
	Resolution #1 – Hyperspace Penetration
IV	Intro
V	Bio Computing
VI	Speed
	Resolution #2 – On the Term “Resolution”
VII	Simulation
	Resolution #3 – The Resolution of the Digital
VIII	CCRU
IX	Lost Futures
	Resolution #4 – Contemplating the Void
X	Electronic Cash
XI	Cyber-Capitalism
XII	Resolution
	Resolution #5 – Ego Death
XIII	Dissociation
XIV	Counter Culture
XV	Outro
XVI	Notes
XI	Bibliography

Abstract

This thesis develops resolution as a category for understanding the structural assimilation of the digital and the analogue, the virtual and the real. Derived from the German *Auflösung* – denoting a technical measure, a solution to a contradiction and a process of dissolution – the term will describe a process of digital media characterised by the mutual integration of the virtual and the real. The use of computerised media technology leads to increasing acceleration and virtual imaginaries with abstract metaphysical notions, although the denial of material reality and the hyperfocus on computation technology inevitably leads to increasing alienation and the cancellation of possible futures due to the phenomenological collapse and the deterministic nature of the applied technologies.

This thesis develops a theoretical framework based on Paul Virilio's dromology and speed as a socio-economic force collapsing physical distance and Jean Baudrillard's hyperreality and the abolition of material referentiality for the economy. Nick Land's hyperstition and Mark Fisher's hauntology, both originating from the CCRU, are read as complementary subsequent responses. Negotiating between a materialist and a post-structuralist perspective, the argument is illustrated with case studies

from biocomputing, the cultural history of psychostimulants, film analysis and the political economy of cryptocurrencies, where Marxist, trust-based, and Baudrillardian theories of value collapse into the proof-of-work mechanism.

The thesis argues that resolution is a continuous, quantifying process. Digital technologies are sampling, fragmenting, and reconfiguring the analogue world, while simultaneously disappearing as a physical object and thereby becoming a structural part of reality itself. In this process the human subject dissociates into a distributed hypersubject. A perfect victim for societies of control but simultaneously a possibility for an unprecedented form of collectivisation. The thesis concludes that political agencies today can only succeed by appropriating digital infrastructures rather than escaping from them.

Keywords: resolution · dromology · hyperreality · accelerationism · hauntology · cryptocurrencies · biocomputing · control society

We have no need of other worlds.
We need mirrors.

– Stanisław Lem

Resolution #1 – Hyperspace Penetration

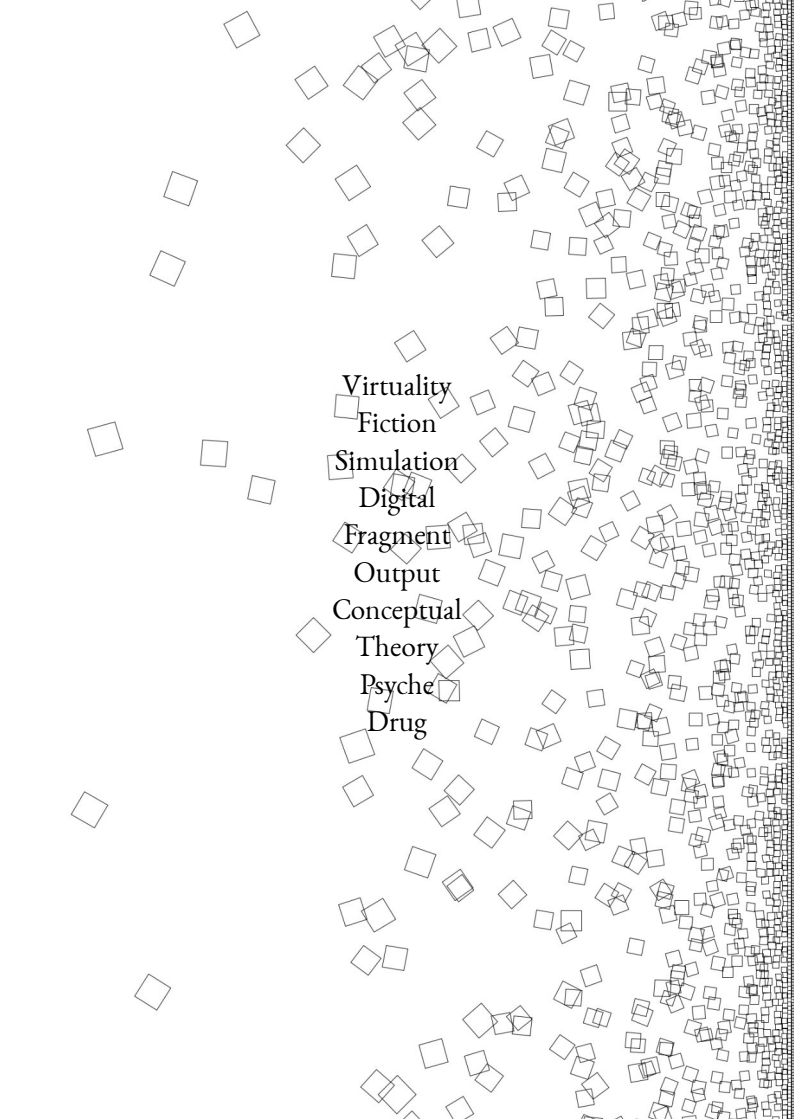
{

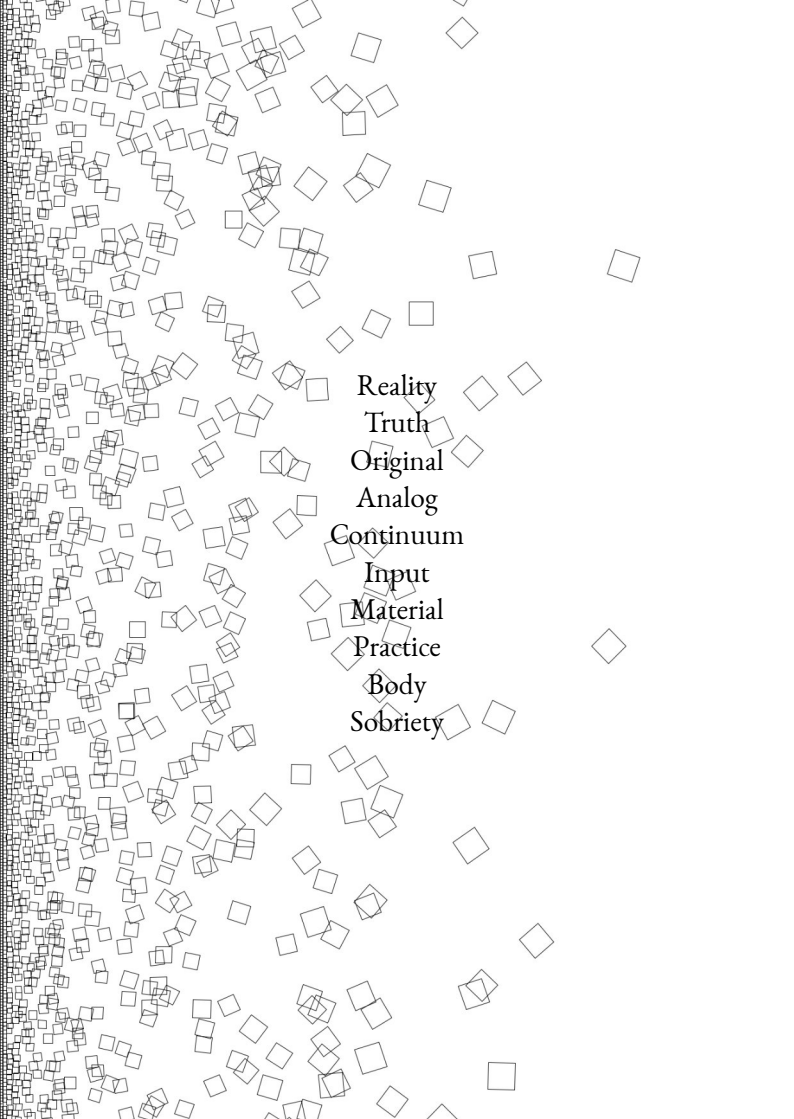
I am strangely fading away.

It happens in real-time. Everything is everywhere simultaneously. I cannot remember when it began since it has been creeping in for years. Maybe it was always there. My sensorium transcends time and space, leaving me in paranoia from the vast sea of information I access but cannot comprehend. I used to have screens with pixels; then the grid gradually disappeared, and only the images remained. They've simply melted into my reality. They constantly promise me something new, as if the world could reinvent itself everyday. But in truth, there is no progress anymore. Ever since then, I've felt strangely fragmented. Neither here nor now, but neither elsewhere nor at any other time. And as my body vanished, so did my mind.

What kind of resolution is this?

}


Virtuality
Fiction
Simulation
Digital
Fragment
Output
Conceptual
Theory
Psyche
Drug


Reality
Truth
Original
Analog
Continuum
Input
Material
Practice
Body
Sobriety

Intro

As the title of this essay suggests, I intend to explore the topic of resolution. Before I proceed, it should be noted that as a native German speaker, I initially reflected on the German term *Auflösung* and subsequently decided to translate it as *resolution*. In German, alongside its productive and rather technically oriented meaning, the term also carries a destructive aspect and would therefore at the same time be translated as dissolution. The term connotes a Hegelian element similar to *Aufhebung*. Two supposed opposites are negated by introducing a state of mediation. The truth lies not in choosing between these aspects but in their negotiation. This is a mechanism that can be applied productively in media, whose nature is fundamentally mediating. In particular, in the contradiction between analogue and digital – a binary I will also address – the opposites will be resolved. As I am concerned more with technological resolution than with chemical dissolution, the translation is therefore resolution. But before any further confusion arises: for Hegel, the German term Auflösung denoted a disintegration, a passing away. That is certainly a factor in the resolution, but not its essence. A native German speaker might perceive it as precisely this slight shift in meaning in English, which, on the one hand, frames the

term more technically precise, whilst at the same time being more productive, that allows for the following argument. From the perspective of a native English speaker, the negating aspect must also be taken into account, and moreover, the meaning can also apply to social relationships. In German, a body, a society or even an entire state can also resolve. Accordingly, my translation – as just happened – will push the boundaries of translation a little.

As a conclusion to my studies in Digital Media, this text offers several ideas of an experimental nature and should presumably be explored further. The outcomes are therefore best treated with a critical mind. However, I do believe it delivers a unique assembly of theory and creates a unique connection through it. The aim is to foster a new understanding of an existing perception – the disintegration of the digital and the analogue, even though their coexistence is the shared real. The main concern will be the acceleration of media, capitalist cycles and ultimately the possibilities for their resolution – the overcoming of the disintegration. Therefore, these pages serve as a current status of my research presented through the lens of resolution, since I found it to be a fruitful multitude of meaning to grasp my understanding of the presented theories. Resolution – as it is commonly understood in English – describes the metric of the information capacity of the di-

gital, e.g, the resolution of a computer screen, but with regard to the German *Auflösung* at the same time a process of dissolution, disappearance, merging, and somehow ultimately emergence. Something comes to an end, something new begins, ingrained with everything that was before. The selected framework of media theory that I would like to outline will lead to a structural assimilation between meatspace and cyberspace. Not in the sense of a cyborg – a seamless extension of the body via technology – but in a more fundamental sense. I negotiate this development by describing how speed as a socio-economic force leads to the age of simulation and the economic neglect of physicality alongside the theories of Paul Virilio, Hans Christian Dany and Jean Baudrillard. The writings of the CCRU members Nick Land and Mark Fisher, the revitalisation of rave cultures, advancements in bio-computing and the obscurity of cryptocurrencies and abstract economies analysed by Finn Brunton and Rachel O'Dwyer will enable resolution to be tangible in a contemporary context.

Drawing on a selected framework from media theory – ranging from speed to posthumanism – this text will then build a bridge between the historical acceleration of the media and communication to the contemporary contradictions of the virtual. Resolution will be understood as a cultural phenomenon originating from a digital

measure. In parallel to the outlined philosophical theories, I will draw from personal experience and considerations to enrich the ideas and connect them to the individual. This essay will oscillate between economic, cultural, social theory and the human body. What is analysed at large will be projected onto the individual. To enable further axis of access, I will continue to interrupt with five "resolutions" serving as a poetic critique and demand. Finally, a multitude of "associations" and "dissociations" will expand the theory sideways to create additional interfaces.

Bio Computing

At a time when I felt as if I was disintegrating, I stumbled into a bio-computing symposium in Ljubljana with the ominous title "Hybrid Intelligence: Intercognition with the Non-Human Other Through Biocomputing". A title to which one could probably dedicate an entire thesis by itself. Nevertheless, the event occurred last autumn (2025) at the "Kersnikova" Institute – or more precisely the Kapelica-Gallery – an exhibition space within the bio-art lab, located in an old industrial building between train tracks and a construction site. Not a place where anyone would expect something rather unusual. The entrance was an elevator accessible directly at the side of the building, and merely a small sign indicated the floor visitors should find. The inside appeared in no way less mysterious: an industrial stone floor and temporary segmentations reminding me of larger storage facilities, some of them built of half-transparent glass. There was an eeriness to the place, not least triggered by a distinctive smell of something wet coming from a bioreactor only barely visible behind one of the walls. At the end of the hallway I eventually found the exhibition space where the symposium was to take place: an all-black room, and maybe fifteen visitors attending.

The event started as expected: some technical

problems, some confusion, and finally a first talk about a topic I could hardly focus on – even though I was in slight tension from the amount of coffee and the strange climate of the facility. After a short break, a second speaker followed: a young scientist from a Swiss start-up, FinalSpark. I guess I have to be honest at this point: until here, I didn't really know what *biocomputing* effectively means, which was about to change. In a very straightforward, professional fashion, but with a slight nerdy insecurity, she explained what the start-up is doing: from human stem cells – basically available to buy online – they cultivate human neurons and cluster them into a neural network. Once they grow a slice of human brain, electrodes are applied and stimulate the network while hoping for a readable output. In other terms: the neural network is "trained". Their catchphrase, as I remember it, played exactly on this threshold: "We start where neural networks on silicon end." The website states, "The human brain is a powerhouse, boasting 86 billion neurons and using only 20 watts of power for efficient computing." Finally claiming to be "1 million times more efficient than a silicon processor."[1] As mentioned during the symposium, there is already another start-up from Australia, "Cortical Labs", whose bioprocessor is already up and running. You can – of course – play *Pong* on it. Ugh, what a cliché. But also, a little more

appropriate: *Doom*.[2] "The possibilities are very exciting," the website of FinalSpark concludes.[3]

Since FinalSparks research on hyper-efficient processors is located within the AI trajectory, I think *Doom* seems like an honest game to play on a human-brain "computing" device. In case some readers aren't familiar with the game: in essence, you run through hell and shoot all sorts of demons. The game has achieved cult status and due to its extremely compact code, it became a challenge to install *Doom* on pretty much any device with a processor. Presumably every ambitious computer scientist has at some point tried to install *Doom* on their smart washing machine. Shooting down demons on a computer made from a human brain certainly sounds plausible. The main associations I had, however, were somewhere between David Cronenberg's *eXistenZ* and Nick Land's "Meltdown:" The first one is a quite surreal science-fiction film with strange flesh computers you plug into by connecting some kind of umbilical cord to an implanted "bio-port" on your back. The apparatus then generates an entire virtual world being eerily biological. The computer here is not a purely electronic device but a portable nervous system built from genetically designed "bio-parts". In this sense a merging of the technological and biological is provoked, similar to what I just witnessed. In the film this

merged status unfortunately results in a psychological collapse between cyberspace and meatspace leaving the spectator in doubt whether virtuality and reality are divided at all. I will return to David Cronenberg and his films again later in this text. "Meltdown" on the other hand is a feverdream-like piece of theory from the 90s, drawing from trans-humanism and cyberpunk, and is considered to be the foundational text of accelerationism – an idea formulating a substrate for what is to follow. One leading vision: nano-biotechnology and computation will merge and pave the vector towards the AI-singularity. I will also discuss Nick Land in more detail shortly. The main concern here will be after all, the body – and what happens to physicality within digitalisation and computerisation. Biocomputing startups, considering the human brain as an efficient computational device, are a glimpse of the hyperreality we are already sliding through. So let us step back a little and start with the socio-economic force behind this development:

Speed

The resolution I wish to conceptualise here is not part of a fixed static condition, but is rather part of a process deeply rooted in the history of technology. A key parameter decisive for this resolution can be found in the possibilities offered by industrialisation and the accelerating pace of technological development. I would therefore like to first address the work of Paul Virilio, a French media philosopher with a certain interest in architecture and urbanism, who argues in *Speed and Politics* how operating at high speed became a socio-economic force. In his analysis he reaches back to the 18th century and argues that the French Revolution was primarily a revolution of the acceleration of a public mass, guided by the bourgeoisie. This new form of mobility eluded state control and resulted in the redesign of the city landscape to control the acceleration. Paris was built like a fortress – a highly static unit. A very inflexible structure, easy to defend against the outside, but at the same time also unintentionally easily barricaded from the inside in the event of public turmoil. With the French Revolution this situation unfolded and accelerated the masses. The surging crowds forced the state to redesign street layouts with wide boulevards, allowing for military movement and artillery. In Virilio's argument, fighting for

the possession of speed is therefore a military operation, and whoever operates at high speed is in advance.[4] Virilio exemplifies this further with multiple examples from the German *Blitzkrieg*[5] to modern rocket systems, leaving no time for decision-making or democratic processes but acting instantaneously.[6] He claims urban planning across wide parts of Europe is, since then, been focused on security and order. He eventually coined the term *dromology* for speed as the engine of society, the vectorial force, derived from the Greek dromos, meaning "racetrack." With this conception, the direction we are headed has been determined: the new society is no longer interested in stasis, since the military operation is one of logistics and movement. The result is a competitive race in terms of speed. For Virilio, there is no industrial revolution, but rather a dromocratic revolution; no democracy, but dromocracy, no strategy, but dromology.

Not coincidentally, speed is also a slang word for a common drug: amphetamine. The substance lingers throughout the entire 20th century and serves as a crystallisation of Virilio's ideas. Hans Christian Dany portrays this cultural impact in detail in *Speed – Eine Gesellschaft auf Droge*, so far published only in German – the title translates to "Speed – A Society on Drugs". Amphetamine shifts the consumer's body into a state of stress and ten-

sion, increases physical endurance, and delays the need for sleep for hours, if not days, while delivering a slight feeling of euphoria. First synthesised by the Romanian chemistry student Lazăr Edeleanu in 1887, more by accident,[7] amphetamine remains hidden until 1932, when it was commercialised as a tiny inhalator, a remedy for all sorts of ailments, and became a huge success.[8] Besides private consumption, a few years later methamphetamine – the stronger related drug – was widely adapted in the military, especially in Germany, during the Second World War as a support for soldiers at the front.[9] Speed is a measure of logistical operation and mobility but at the same time a common drug in the military. What appears for Virilio as a greater socio-economic force is also a substance in use. What I find astonishing are the larger effects, being eerily similar and mirroring each other. It is precisely this resemblance, a socio-cultural change and a physical feature at the same time, that shapes the facets of the resolution.

The amphetamine commercialised under the name Benzedrine was widely misused in private realms as a substance to optimise the body.[10] Staying awake for longer, being faster and more productive or losing weight are all desirable features of an accelerated society. As a tiny inhalator, Benzedrine became widely available and was integrated into daily life. As a result, the substance found a

wide range of applications within the logic of capitalist exploitation. Stimulants like speed were used on film sets, for instance, both to regulate the actresses' bodies and to enable 72-hour-long shooting sessions.[11] Later it then became a medication for ADHD, designed to help distracted children concentrate. A procedure one could also read as preparation for the labour market.

First traces of a resolution are already glowing through the textures of physicality here. In Virilio's essay "Polar Inertia", the absolute acceleration has some nasty side-effects: while amphetamine seeks to overcome the human restraint and squeezes out the physical body, speed as a socio-economic force eliminates space and the body of the earth. Physical distance collapses. In Virilio's own words: "Our planet is slipping away: not as a cosmic express moving at thirty kilometres per second, but as a rapidly deflating toy balloon."[12] The logistical revolution of the military resulted in communication systems that transport information around the globe at light speed, and thereby alter ontological reality – from live radio and television to the internet. The technologies we use today and shape our daily lives are a byproduct of this military revolution on speed. Virilio condenses this status in the Apollo 11 mission from 1969: military rocket development resulted in a landing on a second cosmic body and elimin-

ated planet Earth as the absolute zero. At the same time, the event was live transmitted on public TV and thus phenomenologically collapsed the distance. If the human sensorium can reach every corner of the planet in real-time and even observe on the moon, physical distance no longer exists anymore. Speed, as both a socio-economic force and a substance, leads to a concentration of perception – phenomenologically, and consequently also psychologically. Until it breaks down. "The obliterated sky, the landing of humans on another planet, gave us a balcony view of the void."[13]

With the collapse of physical space, the virtual emerges. Space does not simply vanish, but a new, different kind of space arises. The observer is not really on the Moon, not really anywhere, but "tele-present," as Virilio frames it.[14] What was once a mystic sky has crumbled into an infinite void. This is cyberspace: a virtual space, present in real-time. The body finally dissolved from the physical world and is resolved within virtuality – where only information needs to be processed.

Resolution #2 – On the Term “Resolution”

{

Resolution is a process.
Resolution measures.
Resolution fragments.
Resolution granulates.
Resolution eliminates.
Resolution disconnects.
Resolution reconnects.
Resolution resolves.
Resolution merges.
Resolution craves.
Resolution materialises.

}

Simulation

I was still a teenager when I came across cryptocurrencies for the first time. Not in the physical world, of course, but online as an ungoverned currency to buy things. In my case, well, a few grams of marijuana, I'd become interested in. I knew currencies like the euro as a measure for exchanging goods and cryptocurrencies as the accepted currency by online drug markets seemed like the logical tool for my endeavour. Two years later I made an unfortunate realisation: as the value of Bitcoin had soaring, the value of those few grams of weed, which had already turned to smoke, now amounted to roughly €100,000. Okay. While there are countless stories like this circulating, most of them far more drastically – the first Bitcoin transaction was a pizza for 10,000 BTC, now worth hundreds of millions of euros, an event the community celebrates yearly as the "Bitcoin Pizza Day" – the obvious question still remains: how the f*ck is that possible? What even are these "currencies," and can any conclusions be drawn regarding speed and virtuality? Unfortunately there is no easy answer, if any answer at all, but the emergence of the virtual delivers an entry point. Speed may be the source of resolution, but there is a second dimension that opens up alongside it. The contradictions inherent in cryptocurrencies – I'll come back

to them soon – give a sense of this unbound reality. I have already demonstrated, drawing on Virilio, how speed, as a socio-economic force, tends to overcome physical boundaries; based on Baudrillard's work, I would now like to illustrate the economic neglect of physicality. Both approaches towards the virtual will be necessary for the resulting resolution.

In *Symbolic Exchange and Death*, Baudrillard claims our economic system became "hyperreal." To gain a better understanding of this concept, let us briefly recall where, according to Marxist analysis, the value of a currency comes from: the physical labour involved in the production process.[15] Currency is like a product, and the amount of labour time invested determines the exchange value of a product. Gold is the anchor of the economy and as an extremely scarce element, it needs an incredible amount of work to be "produced," and so its market value is very high. But for Baudrillard, a structural revolution of the value occurred. While in the age of production, physicality – that means gold – served as a referential for a currency's value; in the age of simulation the referential is cut away, leaving a mesh of relations between the signs but no relation to the physical. In his main argument, he marks specifically the abandonment of the gold standard by U.S. president Richard Nixon in 1971 as the end of the age of

production. From there on, currencies are only exchangeable against each other but no longer bound to the real material world. The currencies – or more abstractly framed as the signs – form a mesh of relations with one another, while gold, the physical and "real" connection is abolished.[16] The world economy, since then, has developed into a speculation with some side effects, one being the theoretically unlimited potential for growth. If there is no material substance regulating growth by coupling it to productive labour, money supply becomes arbitrary and is based on trust in and between states. What renders the situation hyperreal are the real physical consequences of the fictional status. The stock market is a virtual system and pure speculation – a simulacrum – but if it crashes, people lose their jobs and homes. To put it another way, an abstract, decoupled system determines people's material basis. Virtuality affects reality in a way that makes it appear more important than the real. I like to describe hyperreality as a sort of double helix. One side describes the real, the material foundation. The other side describes the fiction, the virtual. Both sides are interdependent, mutually reinforcing, but viewed from a distance, can no longer be distinguished from one another.

To further illustrate this relationship, I want to come back to David Cronenberg, whom I mentioned

earlier in the introduction. Cronenberg is known for his cinematic take on Virilio and Baudrillard, even though the influence is most probably a co-evolution rather than directly based upon them. His film *Cosmopolis* captures the hyperreal situation now quite precisely. The asset manager Eric Packer is cruised through New York for a haircut in a stretch limousine, fully isolated from the surrounding streets. The physical city is merely an infrastructure for movement and features no stasis – even though, ironically, traffic is constantly jammed.[17] A crash of cyberspace into meatspace. By contrast, the car's interior is covered with screens displaying all sorts of exchange rates and indices, changing in milliseconds, in constant flux, and it is on this data Packer decides his transactions. The outside world – New York and the growing tumults – does not matter and is widely ignored. He lives in a capsule of hyperreality within reality. While the physical world was rendered obsolete, the screens of data within the capsule are defining. The world resolved into information disconnected from the real – although his "work" as an asset manager seems to impact the population, considering the protests the limousine encounters. The strange entanglement of the real and the virtual is thus not only visible economically but also projected back onto the individual. The same disconnection from physical reality that occurs at the economic

level also occurs on the human body, leading to Packer's constant search for a "real" experience – if necessary, even through pain. One of the film's most ambiguous scenes portrays the daily medical inspection of his body, resulting in a diagnosis of an asymmetric prostate. Still amazed about the frequency of the slightly sexual examination, the protagonist concludes that no one knows what it means and no one can say whether it has any relevance.[18] Most importantly, it is compiled as medical data – the only way Packer can make sense of his body. Once again, the real is constructed from the virtual, seemingly more significant.

To fully grasp the interplay of fictions, it is worth considering a second, strikingly similar film. It is a remarkable coincidence in film history – if it was a coincidence at all – that in 2012, two renowned directors released films with almost identical premises – Cronenberg's *Cosmopolis* and Leos Carax's *Holy Motors* – a circumstance critics at the time often referred to as a "limo double feature." Taken together, they offer a complementary analysis of the same phenomenon. In *Holy Motors*, once again the protagonist "Oscar" is shuttled in a stretch-limousine – this time in Paris, the city of Virilio's first argument in *Speed and Politics,* where the city deteriorates into an infrastructure for movement. But contrary to *Cosmopolis*, Oscar regularly leaves the limousine into the "real" world, and every

time costumed as a different character to engage with different "real" events: once he steps into the figure of an old woman begging for money, once a hitman, or once as an actor in an abstract motion-capture studio. Covered in all black with white dots on every joint of his body, he performs a scene; the camera then moves onto a screen displaying him as a tracked point-cloud moving through space.[19] His physical body is resolved into the digital. As a hit man, he later kills a double who is almost identical to him, only to be killed in return by his double, who then applies make-up to replace him for the rest of the movie.[20] Identity is freely exchangeable within the simulation. This time the limousine does not represent a capsule of hyperreality but the last real space, while the performances outside of it become the exchangeable fictions. The body of the protagonist himself is no longer relevant but a projection surface. In this arbitrary superposition, the physical world seems to fade away, dissolves into the hyperreal, and is absorbed by it. In *Cosmopolis* it is observed that "even computers are dying; they melt into the textures of everyday life",[21] while in *Holy Motors* Oscar mourns the disappearance of the machines and the human body. The machinic disappears and is thereby incorporated as a structural part of reality. In a key scene within the limousine, an ominous client appears to whom he confesses he would

miss the cameras: "They used to be heavier than us, then they became smaller than our heads. Now you can't see them at all."[22] A few moments later, in the scene's final shot, the camera now observes from the outside, capturing the limousine as it drives under a bridge besides the Seine, whilst we can still hear his voice asking, "What if there is no beholder anymore?"[23] What happens if the physical resolved and the body remains a play of fictions? If everything is simulacra, who is the spectator, spectating what? In hyperreality there is no beholder anymore. In hyperreality the human subject dissolves.

The effects of this hyperreal status, shown in the movies, are condensed by Baudrillard in a very similar fashion: amphetamine as a substance merely serves to optimise the body, but the stimulation caused by speed as a socio-economic force generates an entire fiction about the body and the fiction itself is the entangling factor here. Data defines the body on multiple levels: superficially, through all sorts of measurements and tracking like displayed in *Cosmopolis* and *Holy Motors*, but also intrinsically, as with scientific advancement the human being is exposed as a code of DNA. Baudrillard argues that the body was resolved into data and signs, and thereby imagined in the same way hyperreal. And this virtual phantasm – the image, the imaginary – now constitutes the body.[24] The same

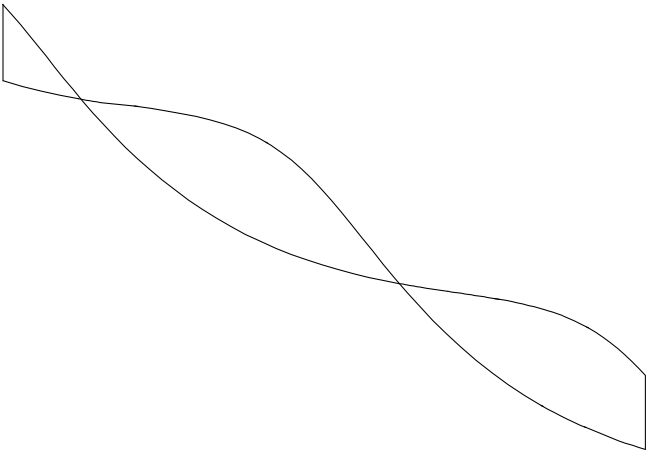
cycle of fiction constituting reality is established. In the late 70s, when Baudrillard wrote *Symbolic Exchange and Death*, mainly TV commercials, printed magazines and the fashion industry were the objects of his argument, displaying how they serve a phantasm about the human body. But since the development of social media and the self-idealisation of the subject on virtual platforms, the optimisation is performed by the individual. *Holy Motors,* in particular, could be seen as a commentary on the interchangeability of staged realities. Considering the advancements in generative AI, it seems like the latest acceleration within this frontier, as it brought "virtual" bodies to the screens. An image of a person, generated statistically from myriads of other images whose originals are unknowable, serves as an influencer for millions of people. Once again the virtual seems more important than the real, and what is real is resolved in an infinite chain of signs.

On speed, one has to overcome the physical boundaries and launch into space, an image of infinity. And within cosmic virtuality, the real can easily be replaced by a token of the real. Even though Baudrillard's *Symbolic Exchange and Death* was released a year before Speed and Politics, Virilio's Dromology can be read as a pavement towards Baudrillard. Both describe the emergence of the virtual – the one through Speed and the col-

lapse of physical distance, the other through the loss of physical referential and its replacement by signs. Combined the two arguments interlock: In the glaring light of Virilio's acceleration of information technology, to cut the physical referential is not only a possibility, but a necessity, if not the phenomenological consequence. If a society accelerates and finally aims to operate beyond physical constraints, to neglect the physical in order to overcome the boundary, effectively, is a requirement. Speed as a driving force has no specific historical origin but is constantly intensifying as society and economy accelerates. Similarly, there is no absolute origin of the hyperreal, but merely a constant intensification of the process.

This circumstance is of central importance and will resolve the arising contradictions in my subsequent argumentation, as from now on, with regard to almost all technological developments and their cultural implications, the underlying reality is, to say the least, challenged. For Baudrillard there is no underlying reality. That's the post-structural position. In the following, I will therefore fluctuate between a materialist and a poststructuralist perspective and negotiate the two ways of understanding: As the material basis is influenced by hyperreality, a single perspective would not suffice. My aim is thus to filter out virtual illusions seducing out perception whilst simultan-

eously demonstrating how these illusions constitute what is real. A unification is supposed to be achieved by the resolution theorised here.



Resolution #3 – The Resolution of the Digital

{

The term "digital" is connected to the English “digit,” tracing to "digitus," Latin for “finger.” The decimal system, as the commonly used method of counting, evolved from the physiological ten fingers. Computers, on the other emitter, use the binary system as a result of the two possible states of a transistor – the underlying electronic component of every modern processor. At the bottom, a computer is a massive calculator. Nothing more. To make it work, one needs to create a numerical input in return for a numerical output. Since the analog world is percieved as something continuous, a resolution is necessary to create thet input. The continuous swelling of a sine wave is resolved into a sampling rate and a resolution, fragmented in time and space into samples. At the computer’s interface, the world falls apart into numbers to be calculated. On the output side, the opposite reconfiguration is performed: through another interface, a more human representation of the underlying data is organized – but zoomed in, discrete values appear in the form of pixels with RGB values. Through multiple layers of abstraction, the digital world is compiled into the real. At least the human real. Behind the meta-

physical veil of information lies a physical reality, and as I demonstrated with the fingers and the transistors, the digital was physical all along. Within the digital detail, an analogue technology.

The same pattern occurs if one approaches this status from the material world. The term "analogue," derived from the Latin "analogos," roughly means "to be corresponding". If something is analog to something else, it corresponds to it, it runs parallel to it. The stylus of a record player moves analogous to the grooves in the record, generating an electrically oscillating signal corresponding to the movement. The world appears to be analogue, as if everything was seamless and continuous. But zoomed in once again, we reach a boundary, a fragmentation. An analogue film consists of long molecular chains forming the grain and producing the image. Microscopic metallic particles, whose orientation reflects the data, are stored in the magnetic tape. But by now even most pixels of a digital sensor are smaller and the metallic particles fall behind digital accuracy. Mostly the digital resolution is already higher than the analogue. And zoomed in far enough, even measurement itself becomes granular: with Planck's constant, physics finds the smallest quantum of action – a threshold below which nothing can be resolved, not even in principle. The

concepts of space and time themselves lose their grip. Whether reality is fragmented or only our description of it remains an open question. The universe may even have a refresh rate and the analog world appears to have a smallest grain of answer – in detail digital.

Two paths to make sense of the world. What lies between, the interface, is a resolution

}

Industrialisation and computerisation caused a massive acceleration of information and the body, forging speed as a socio-cultural force. Drugs like amphetamines, as an expression of this process, chemically enhance the urge by infiltrating the organism. As the human body is subject to computerisation and is too slow for this kind of processing, the virtual world offers an escape from imposed limitations. The perceived virtuality of computers is in contradiction to physical reality and results in a phenomenological collapse. I would therefore now like to highlight approaches to resolve this contradiction in the writings of CCRU members Mark Fisher and Nick Land. To begin with, I would like to revisit an analysis of underground rave cultures as hyperreal spaces, an analysis I originally carried out for my Bachelor's thesis. The argument I put forward there will soon regain significance.

Back then, I created a comparison between the rave as a cultural phenomena and as a physical space with Baudrillard's analysis of Disneyland in *The Agony of the Real*. The park serves for Baudrillard as a fictional world, a simulation, created to awake a feeling of reality outside of the park: "Disneyland is presented as a fantasy to serve the impression everything else is real."[25] Through the opposi-

tion to the fictional, the real is manifested. Although, just like the fictional, it is merely a construct. The rave then represented for me a simulation, just like Disneyland, by creating a fully designed space existing parallel to the outside world. But the media overstimulation by light, sound, drugs, etc. does not result in a revitalisation of the real, as Baudrillard attributes it to Disneyland, but in a deconstruction of societal norms, an interrogation of the real. The reality of a simulation can also expose the previously perceived reality as fictional. The rave does not manifest capitalist realism as a fact but renders it as a construct. In a second stage, fiction becomes fact, as the rave, being an happening, has brought fiction into the material world and confronts the conditions of the real world. In the argument, I turned the hyperreality around and described how the rave as a cultural phenomena generates another fold within this loop of realities and therefore became a tool of deconstruction of societal norms. Hyperreality works both ways.

I wanted to introduce this aspect of a simulation since the rave will now serve as a melting-pot of the previously negotiated ideas. And not only like the briefly touched upon argument but in a much broader sense: Rave culture, as described here, emerged in the 1990s and the ideas developed by Baudrillard and Virilio in the pre-

ceding decades found their resolution during this period. A group of scholars at the University of Warwick with direct links to rave culture embraced the already circulating concepts. Driven by an interest in amphetamines and the thrill of acceleration, the Cybernetic Culture Research Unit – CCRU for short – was founded to pursue further research within this trajectory of Speed and Simulation. Nick Land, as one of the most discussed members of this group, adopted the theories and turned them on their head. One of the concepts developed was termed *Hyperstition* and represents a very similar inversion of hyperreality as I have just explained with regard to underground rave cultures as hyperreal spaces. Hyperstition serves for Nick Land as a fiction-ing about the future: Derived from superstition, a hyperstition is an operating narrative, creating its own reality. A speculation about the future spread into the world, slowly materialising within the cybernetic feedback loops. An idea operating as an agent. In a way also a self-fulfilling prophecy. While Baudrillard's hyperreality views the loss of the real as a melancholic diagnosis of a physical past, Land's hyperstition transforms it into a tool to shape the future. By creating fictions about what's possible, the ideas eventually condense into the material world and shape the real, just like the simulated behaviour beyond societal norms on a rave is carried into the outside

world containing a “real” impact.

An impact, whose original impulse I have already paid some attention to: speed. A necessity to overcome physical boundaries at first, but for Land, more a biotechnology to hack the human body according to the requirements and a tool for hyperstition. At this point, I would like to refer to one of Nick Land’s widely discussed texts. I had already mentioned it in the introduction as one of my associations at the bio-computing symposium: Land's "Meltdown" from 1994 took up on speed but once again turned around the narrative: while Virilio saw in the fight for speed a military force trapping the individual and resulting in suppression and cultural stagnation, Land envisioned a liberating outbreak in a meltdown of meat and technology. As described, virtuality creates the phenomenological necessity to transcend physical boundaries. Land does not critique this circumstance but accelerates it and claims the human condition itself needs to be transcended, as the physical world – the body – represents the greatest obstacle and should be cybernetically enhanced. The idea of AI merging with the mind is a widely shared belief and could be read as an unfolding hyperstition.[26]

Let's briefly apply this concept to the current advancements within biocomputing: lab-grown human neurons are used within a machine to operate a microchip.

The structure of the neural net itself is inspired by the human brain. A loop between the biological inspiration and the technological product is created, leading towards an intensification of computation power. The aim is to make progress in the field of AI. The developments in biocomputing are very similar to what was prophesied by Nick Land, amongst others. Using lab-grown neurons as a neural network for more efficient learning seems logical and blurs the previously assumed boundaries. But this obscures the fact that it is at its core still a computing machine designed to simulate behaviour. And a part of the physical structure is now returning to its original nature. At this point, I must clarify details of the introductory story: the game *Doom* is still stored on a conventional silicon-based processor and is run from this computing device. Training virtual neural networks to play video games was already a common practice and it is the game's controls that are, in this case, managed by a lab-grown neural network. There has been no actual fusion of the two worlds. Merely the neural network, previously a simulation on silicon, has been supplemented by its original.

To distinguish it further and clear out what is going on inside of the machine: neural networks, as computer simulations, are only distantly related to their biological originals. Since the development of neuroscience in

the 1890s, the neuron was abstracted mathematically in 1943, thereby turning it conceptually into a computational unit. Up to this point, it was a genuine abstraction of the real – radically simplified, yet faithful to the original. Later, through learning rules, backpropagation, ReLU activations, dropout, the Adam optimiser, Transformer attention, and so on, it has evolved into an ever-expanding complex of statistical engineering mathematics that bears little resemblance to a real brain and performs functions far from biological processes. A frequently used analogy is an aircraft: a jet takes off from the ground like a bird, follows the same principles of aerodynamics, and indeed "flies" in the same sense – but it does not flap its wings, has no circulatory system, no feathers, no muscles, and, from a mechanical point of view, operates in a completely different way. The bits of reality within a biocomputer are granulating and blurring from distance but, under the microscope, still clearly distinguishable.

Another development Land speculates heavily on is the future of capitalism. In 1993, a year earlier in "Machinic Desires," he claims, "What appears to humanity as the history of capitalism is an invasion from the future by an artificial intelligent space that must assemble itself entirely from its enemy's resources"[27] Since capitalism does not belong to mankind but is an alien technology – an

autonomous agent – and must break away from the human species, cryptocurrencies are the necessary technology for a monetary system that is likewise detached from social structures like a government. This is another hyperstition partly materialising from the ether of science fiction. Cryptocurrencies are, at the very least, since the implementation of Bitcoin, no longer a concept under development but a financial technology arriving in vast parts of the economic landscape.

It was with the CCRU that the concept of "accelerationism" was formed. A term by now condensing all sorts of ideologies ranging from post-humanism to transhumanism and anti-humanism mainly held together by the idea of radical social change through acceleration. The "sacred substance" Land referred to in the retrospective essay "A Dirty Joke": amphetamine. At this time in the late 90s, he held lectures being heavily stimulated, screaming and croaking on the floor while pumping Jungle soundtracks over the speakers into the lecture hall. In his own view he went "profoundly insane" after a year of "fanatical abuse."[28] Strangely enough, it's also a substance you can buy at every corner of the rave from a random guy who nowadays most probably got it himself online with cryptocurrencies. A powdered simulation acquired in exchange for a simulation of currency sold at an event, con-

stituting a simulation within the society. A hyperreal scenario, in an attempt to deconstruct reality. The word "rave" itself means as much as being euphoric, ecstatic and accelerated if not already insane, in a sense on the edge of reason and could be understood as an affirmation of acceleration. A frenzied state, already immersed in resolution.

What I find interesting about Land is the structural fusion of cyberspace and meatspace in the very meltdown, reflected in his theoretical fictions. In current technological developments such as AI, biocomputers or cryptocurrencies, Land's conceptualization is reflected. Meanwhile, as a thinker who has drifted far to the political right from his ambivalent theories, he continues to influence Silicon Valley today. The embodiment of speed as a sacred drug and the psychological breakdown accompanying it serve as a stark reminder of the tech worlds current faith in technology, longing for a fusion of technology and biology. I would therefore like to expand on this idea and place it within the context of a longer-term development. If one considers the history of civilization as one of the achievements of technology, it would also have to be a history of permanent meltdown. The fusion of man and machine is a recurring narrative that has so far failed to occour. I would rather argue instead that mankind has always been challenged by technological developments

serving as mirrors reflecting our own human nature. Not as present in the machine, but as a distinguishing feature arising from its absence in the machine. This interaction then produces a constantly changing human subject and a constantly developing technology, but no fusion of the two. As a cultural phenomenon, Land is still of unique value, since an array of confused conceptions about digitalisation are condensed in his writing, still haunting contemporary culture.

Before I continue, I also want to mention the heavy influence of Gilles Deleuze and Félix Guattari and their "Schizo-Analysis" on the CCRU.[29] As Deleuze and Guattari are not fundamental for the argument I am constructing here, I will only briefly touch on these two authors and the ideas most relevant to this thesis. In one of their major works *Antioedipus: Capitalism and Schizophrenia,* the schizo figure serves as a cipher for a radical breakout from ordered structures. Creating connections where none existed before is intended to break down an antiquated order. Applied by Nick Land, the schizo figure forms a theoretical foundation of accelerationism. The deterritorializing force of capitalism – as described by Deleuze and Guattari – should be taken to its extreme, resulting in a self-destruction of the capitalistic order. The figure of the schizo is radicalised, all restraints are un-

leashed, and capitalism itself becomes the autonomous schizophrenic logic of radical fragmentation, leading to the collapse of the system. The essay "Postscript on the Societies of Control" further describes how a disciplinary society transforms into a control society that encloses and controls subjects through constant, barely perceptible cybernetic constraints. According to Deleuze, the individual, who is fragmented into data segments such as credibility, health status and virtual identities, becomes a *dividual* and ultimately leads to the dissolution of the subject.[30] Since humans are not the victims but the obstacle, one could interpret Land as a kind of reversal in which the process of division is seen as a form of liberation. I will revisit aspects of these theories later in the final synthesis and place them within the broader context. After all, resolution is not a process of mere fragmentation and disappearance of the subject, but rather a simultaneously productive process continuously constituting a newly defined subject.

While Land's speed shenanigans activate Baudrillard's melancholic outlook of hyperreality as hyperstition to access the future and reframes Virilio's pessimistic socio-economic speed as accelerationism to "break through", Mark Fisher could be read as his counterpart from the CCRU era. His cultural analysis seems to me like a validation of the concerns raised by Virilio and Baudrillard and forms a last piece of theory before I will synthesise the positions. Finishing his PhD in 1999 at Warwick University, the main hub of CCRU, and being a student of Nick Land, Fisher's writings continuously distanced from Land over the years and ultimately delivered a quite contrary idea framed as *hauntology*.

For Fisher, the accelerated society results in cultural stagnation, haunted by lost futures, because we are moving so fast, the future has no time to arrive. Land theorises the extinction of humanity as we know it in favour of the AI singularity. Fisher, by contrast, advocates a socialist future and mourns the loss of humanism. In *Ghosts of My Life* he exemplifies hauntology on multiple cultural samples, starting with a description of a slow cancellation of the future: "While the 20th-century experimental culture was seized by a recombinational delirium, which

made it feel as if newness was infinitely available, the 21st century is oppressed by a crushing sense of finitude and exhaustion. It doesn't feel like the future. Or, alternatively, it doesn't feel as if the 21st century has started yet."[31] This lack of newness ultimately folds onto itself and creates "a strange simultaneity" of cultural time omnipresent through the revitalisation of the past cultures.[32] "In 1981, the 1960s seemed much further away than they do today." And this phenomena is still haunting culture more than ever 13 years later. Western "contemporary" culture is still defined by constant remakes, remixes and retro-fetishes and an escape seems barely possible.

A new wave of rave culture has surged in recent years, fuelled by a revival of the past in the form of 90s remixes blocking the future. The rave in this context seems to me like a culmination of the "recombinational delirium"[33] Fisher describes it, considering the extensive use of samples, edited recordings, adaptations and reinterpretations of nearly any genre. Even with regard to its revival, virtually no significant alterations occurred. Theoretically the possibilities are vast and massively expanded through digital production, but apart from niche experiments and the experimental music scene, no serious advances are made in the pop cultural phenomenon.

Many ideas of Mark Fisher were firstly written

down on his “k-punk” blog, short for "Kybernetik-Punk," or just "cyberpunk," where he published a mixture of philosophical drafts and cultural analysis on film and music. His post “London after the Rave: Burial” from 2006 (later printed in 2014 in *Ghost of My Life*) about the musician Burial and his UK garage/postdubstep/ambient music style exemplifies hauntology and the lost futures with regard to rave culture in the right context: “Burial is haunted by what once was, what could have been, and – most keeningly – what could still happen.” He attributes a “mourning and melancholia” to the album sounding like a “wounded city” whose “Rave dreams had been crushed by a series of dead-end jobs.” Speed and simulation resulted in a rave whose imaginaries shattered on the materiality of the city. Considering Fisher's background in rave culture and its contemporary revival, this phenomena is set to regain significance. For Fisher, as for Virilio, violence arises from speed. He favors slowing things down and compares Burial’s sound to the paintings of Nigel Cooke, whose work recreates graffiti using the slow medium of oil painting to eliminate the violence arising from the speed of the creative process in spraying graffiti. To Fisher, Burial sounds like painted grizzled city landscapes and submerges rave’s hyper-kinesis in a stately melancholia.[34] A few years later in *Ghosts of My Life* he then directly accounts Vir-

ilio's Polar Inertia, the "counterweight to the massive speeding up of communication", as a reason for the cancellation of the future. The "precariousness of late capitalist work culture leaves people in a state where they are simultaneously exhausted and overstimulated."[35]

Once again, I must draw attention to another important influence of those theories: Frederic Jameson, whom Fisher references repeatedly in *Ghosts of My Life* and *Capitalist Realism*, developed in his seminal work *Postmodernism, or, the Cultural Logic of Late Capitalism* the concept of *pastiche* – a kind of empty imitation of past styles lacking the satirical or critical impulse of parody. In a sort of "nostalgia mode", the past is not understood as real history but is consumed as a warehouse of stereotypes and retro codes. Building on the concept of hauntology – a term originally coined by Jacques Derrida, already suggesting the constant return of Marx's ghosts – Fisher radicalises Jameson's ideas and uses them to develop a description of the sense of eternal stagnation within capitalist cycles. Since I do not intend to confuse any further with even more theoretical backgrounds, I will not discuss Fisher's historical roots in greater depth. Enough has presumably already been written about these connections. Since my analysis continues to address technological developments, and I consider the concepts of polar inertia and

hyperreality to be more significant in this context, I keep my focus narrowed. Similar to Deleuze and Guattari I will nevertheless revisit aspects of Frederic Jameson's theories later in the synthesis and connect them to further examples.

With a critical glance at the past and its embedding in the present, Fisher appears as the cultural analysis of the beginning of the millennium resulting from what was laid out technologically with Virilio and Baudrillard in the 70s and 80s and culminated, alongside Jameson's theories, in the rave cultures of the 1990s. Nick Land serves as an inhuman visionary and seems like an antagonist whose ideas are heavy to compile, partly cryptic and even contradictory, but are simultaneously hyperreal developments. Land is a product of the code, and the distinction between the real and the virtual is arbitrary. Fisher is the realist reviewing the outcomes from a socialist perspective. Mark Fisher and Nick Land, together, both originating from the CCRU are like a dialectic pair necessary for the following dispute that will unfold seemingly paradoxical meanings to be then resolved by a combination of the two perspectives.

At this point, I'd like to return once more to the film *Cosmopolis* and a key scene capturing both positions: Eric Packer continues to be chauffeured through New

York as his Chief of Theory sits in the limousine and attempts to unravel cyber capitalism through purely theoretical means. While she interrupts herself, claiming that she does not understand any of this, she mentions the Greek word "chrematistics" for the art of money-making, but argues that the term must be given a new meaning, since capital has changed and turned into a purely self-serving force. Time no longer creates money; rather, money creates time. In the ever-shortening cycles the present is sucked out of the world to make space for the future. Time would have accelerated, and a decisive event would be imminent. In light of the protests intensifying outside of the car, the phrase "A specter is haunting the world – the specter of capitalism" suddenly appears on a billboard, interrupting the explanations. Fisher's hauntology could be read into this situation, but it would include capitalism itself and change its function. The impending event could then be interpreted as the beginning of a post-capitalist order but not in the sense of Fisher's new socialist order but a radicalised capitalistic one of capitalist realism. The protests, after all, would ultimately fight against the development, since, according to Eric Packer referencing Bakunin, the urge to destroy is also a creative urge. A perverse twist and recontextualisation of an anarchist idea. In cyber capitalism, a worker and especially the body of a worker is more

of an obstacle and must be overcome. The existing subject is undergoing a major transformation initiated with technical force. The resemblance between Packer and Nick Land is now apparent. Acceleration is the method used to overcome the status quo, and destruction must be accepted as a necessary consequence. The drive through New York is no longer merely a capsule of hyperreality but an embodiment of the situation that has not yet been resolved. Although quantization is increasing – Packer proudly lists the refinements of a second into nanoseconds and yoctoseconds – the disruptive event is still to come.

Resolution #4 – Contemplating the Void

{

All the speed eliminated the night. Still, there is no progress. Last evening the journey started in this exact same room, slowly sinking into rhythm amid flickering lights. Already after midnight we finally entered the scene at 120bpm, still able to understand each other. Whoever selected the music then took precise control to gradually accelerate and increase the volume so our senses, constantly adapting to our surroundings, would not recognise their own numbing. While new dawn fades, the music reaches 150bpm, and no one even realises the permanent screaming anymore. Home again I'm in this exact same room; the speed fades out and another synthetic alteration of the organism is initiated, promising deceleration to reach ground again. I can sense how my mind slows down, how the hectic discussions around me catch themselves again, how I sink into this carpet, blurring the borders of my body.

Ketamine is classified as a *dissociative* and is a indispensable anaesthetic for damaged bodies in emergencies like a car crash at high speed. In lower dosages, a hallucinogenic

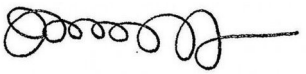
effect is described, seeming to cut all reference. Not in the sense of a colourful trip, as one might expect from LSD, but rather as if everything were disconnecting, dissociating from one another. There is space, and there is time, and there are structures of my surroundings somehow related and not related to each other at the same time. Fragments of meaning, unable to combine. The music has now reached obpm and shimmers ceaselessly through the room; drone sounds full of grain and texture, layering upon one another and thickening the air like a bath I could immerse myself in. The counterculture of the 60s had LSD, and within the deconstructed sight of the substance devised post-modern philosophy, I wonder.[36] The rave generation on speed in the 90s then created accelerationism. And my generation of the new millennium without reference is on ketamine and merely dissociates in cybernetic space. How else can I read this performance?

}

Money is media, because it acts as a bridge. It connects people to people and people to things. To fulfil this function, technological possibilities determine the liquidity of money. Due to this circumstance, the history of money and the history of technology are deeply entangled and, of course, always driven by contradicting ideologies. Since Baudrillard's argument of the hyperreal originates from economic considerations, and Mark Fisher and Nick Land are heavily concerned about the future of capitalism, I would now like to analyse cryptocurrencies – one of the most recent significant developments in the field of financial technology.

Cryptocurrencies are a contemporary battlefield between governments and tech-anarchists, centralisation and decentralisation of power, big tech and cypherpunk hackers and highlight in a peculiar way the resolution of materiality. To illustrate the developments of those bipolar conceptualisations, I have to come back to the few grams of weed, by now (October 2026) worth nearly half a million euros. To illustrate the historical development, I would like to begin with an anecdote from Finn Brunton about a signature on US dollar notes that once challenged the dollar cash system. Finn Brunton is an associate pro-

fessor in the department of media, culture, and communication at New York University and uses this story in *Digital Cash – The Unknown History of the Anarchists, Utopians and Technologists who created Cryptocurrencies* to highlight the aesthetical transition from Paper Money to digital cash. It goes like this: In 2013 Jack Lew, the then-new treasury secretary of the U.S., unveiled his hand signature, that would have been visible on all newly printed dollar notes: a bunch of unreadable loops.



Although the media mocked his comical signature, shortly afterwards Barack Obama publicly asked him to please change his signature since, and this was meant ironically, it could affect the value of the dollar.[37]

Money as a mediating technology is heavily based on trust. While one can easily trust in a coin of gold – since humans give it inherent value through scarcity and production – a dollar bill is already an abstraction from the raw materiality. To Brunton, a dollar bill resembles a kind of contract citizens have with a government that guarantees its value and is, therefore, in the case of the U.S. in 2013, signed by the secretary of treasury Jack Lew.[38] For quite a time now governments did not only guarantee the value but also guaranteed to hold the same value of gold in

one of their gold reserves, which was then the gold standard. But as I discussed earlier, we slipped into hyperreality, and the gold standard was abolished in 1971.

Finn Brunton uses the story of the signature to illustrate how citizens rely on a trustworthy aesthetics – and therefore a bunch of loops just doesn't look like a genuine signature to trust. But let's be real: the signature on a dollar bill is not a real signature all along, but rather a technological copy of a signature. Real signatures look the same but are never exactly the same. If we are precise, and that seems necessary in the case of a monetary system, a mass-produced copied contract with a hand signature like the dollar bill is already just a simulation of a signature. What distinguishes one bill from another is already a printed serial number. The whole aesthetic gravity of cash – the ornaments, the old buildings and historical faces – then just visualises authority but inherits by itself no real implication.[39] To loop the situation even more hyperreal, Barack Obama urged Jack Lew to change his loopy signature in order to appear more real, since the real signature looked fake, even though it would have been copied a millions of times anyways and lose its status as a real signature. As a consequence, the new, more fake signature of Loopy Lew, as the media already reported on him, looked more real. For Brunton the story highlights the aesthetic importance

of cash. Upon closer inspection, though, it is a symbolic confusion and since already in 2013 most dollars were virtually transferred from banking account to banking account without a hand signature ever appearing, the aesthetics of the quibbles with the scribbles are a relic of the past. Signatures today are still fundamentally important but are fully digital and look much more like Jack Lew's original loops: like a string of numbers. They just don't appear anywhere visible anymore and are silently sent around hidden in the code.

Taking another step further, cryptocurrencies are fully computational and algorithmic currencies, not issued by a government anymore, and exclusively rely on cryptographic signatures as a verification of authenticity. Within the trajectory of this text, cryptocurrencies could be read as the conclusion on Baudrillard's death certificate for the physical economy. What started with the aversion of the gold standard finds its resolution in a fully virtual currency not only cut away from a physical referential but all societal referential, for the reason that no national government and no central bank are involved. But this is only partly true, since cryptocurrencies are a pool of associated but not necessarily similar technologies, and if one considers the original Crypto *Bitcoin* – not truly cryptographic, though, since the whole terminology within this field is

messed up[40] – news headlines about the horrific use of electricity and governmental regulations comes to mind and gives a hint that the story is not fully over yet.

Bitcoin as the first known cryptocurrency was fully conceptualised in the paper "Bitcoin: A Peer-to-Peer Electronic Cash System" by an unknown persona calling themself "Satoshi Nakamoto" in the year 2008. The paper states, "We define an electronic coin as a chain of digital signatures". This chain of digital signatures resembles cryptographically interlinked the blockchain, the promising technology behind Bitcoin.[41] In a *proof-of-work* system, each block is verified by computing a hash value. A mechanism resulting in a permanent race of all participating computers in the peer-to-peer network. The now-global race is contested by entire server farms and results in the massive consumption of electricity, but not out of accidental programming, but out of design. As a reward for the offered computation power, the network here and there spits out a freshly mined Bitcoin. I am aware this summary condensed some of the technical details, but the basic principle should be clear if it is not already widely known. Computing power generates and, at the same time, stabilises a global currency independent of governments and banks. With this in mind, I shall recall the gold standard, the reference, the back-up of the dollar to the

labor intensive physical gold mining. Now in the 21st century, the age of information, the hyperreality, computation power has replaced physical labour and turned Bitcoin into the new gold and the computation race on Bitcoin mining into a cybernetic version of the gold rush.

This is the reference of Bitcoin as digital gold and at least superficially explains the immense confidence in this technology, resulting in massively rising exchange rates. When I was still a teenager exploring the hidden parts of the net, roughly fourteen million BTC were mined and circulating with a market capitalisation of four billion dollars, resulting in a price under $300 per Bitcoin. Today over twenty million BTC are circulating with a market capitalisation of 1.6 trillion dollars, resulting in a price of $80,000 per Bitcoin.[42] In the same timeframe the electrical consumption climbed from four TW/h to 200TW/h and reveals the strange physical entanglement of the "virtual" currency.[43] Bitcoin is not detached from geography but is a physical infrastructure in need of electricity. This aspect brings the nature of resolution into sharp focus: what was initially traded as a physical commodity – first in the form of gold and later abstracted as fiat money – has been resolved into a digital replica. This development doesn't mean it is disconnected from material reality; rather, it manifested itself through a process structured by

its inherent logic of computerisation and algorithmisation. Bitcoin has not been dissolved from the physical world but materialises its way of operating in a tangible reality from a first conceptualised paper. Consequently, Bitcoin was built in precisely the form that was initially nothing more than a concept. To put it in the language of a meme:[44]



Bitcoin literally became a thing.

Considering Marx and the creation of value through work, the applied logic here could be: Bitcoin's immense computation power and thirst for electricity resembles real work reflected in investments, and the resulting rise in value.[45] But through the eyes of Baudrillard, the opposite is true. Within the age of simulation, physical

work is not meant to produce anything real but to verify the authority of signs, the virtual, and the proof-of-work mechanism of Bitcoin illustrates this idea accurately. Alone the name "proof of work" claims a reality through executed work / computation power, despite being a purely abstract construct based on the conceptual idea of an anonymous person, who, in this sense, is not really real themselves. The work is simply a technological necessity within a paper towards an electronic cash system and programmed in the code.[46] The real world, in contrast, is not programmed but chaotic and full of accidental conditions. Bitcoin is not designed for random events. Yet, unpredictability and accidents strike me as foundational for the development of a society. The proof-of-work mechanism as a proof of legitimacy would be for Baudrillard nothing more than an excuse to sustain the illusion of something real, but by itself it is purely fictional.

This is precisely the contradiction where the established resolution interlocks. So far, I have introduced three different theories of value: the Marxist theory – value derived from physical labour; the theory of trust – value based on trust in the form of contracts; and, finally, Baudrillard's analysis – value has only a symbolic value without a referential. In the proof-of-work mechanism, the three theories fuse together. The computational power

generated by the algorithm represents real work value in the information age, yet is nevertheless based on purely cryptographic trust in the mathematical invincibility of the algorithm. The entire construct is a fictional idea continuously reproducing its own symbolic value through the work it executes. The contradictions inherent in the cryptocurrency Bitcoin cannot be understood with a single theory of value alone but are resolved into one another within the digital economy. The abstractions of the real as information systems, embedded within the real itself, cause a structural resolution of the real.

The compatibility of Marx and Baudrillard using the example of Bitcoin reveals the real value of the code. Value and code, in the symbolic sense, are not opposites, but rather overlap conceptually within digital capitalism. They are resolved. This does not render Baudrillard's cultural analysis obsolete, rather, it could be radicalised even further: Marx's original value – the real, the gold – is also a code. The real use-value of gold is negligible, and various other scarce resources are far less valuable. Their relationship is more of a cultural construct. Baudrillard's argument – that the code is more important than the real and thus creates the real – can also be applied to gold, formerly the economic original and ultimately the referential. Bitcoin is then a laboratory-clean Baudrillard-experiment and

the more likely a structurally necessary transition following the abolition of the gold standard. The cultural, economic and material reality of Bitcoin is a prime example of resolution.

Cryptocurrencies are a stunning expression of hyperreality for more than Baudrillard alone. Even if we take a step back before the virtual – where speed had its place – Virilio's "Polar Inertia", like the virtual itself, finds a material manifestation in cryptocurrencies. Firstly, the economic infrastructure of the new form of trading is a purely algorithmic computational system governed by principles of cryptography. What was once a piece of paper as a stock or a bill became abstract information. The exchange is available 24/7, 365 days a year, from any location in the world at any time. Time and space are consequently resolved, as communication takes place at the speed of light. What was once a physical stock exchange or a bank with fixed opening hours has evolved into a constantly accessible virtual platform. The economic state is once again projected back onto the individual body. When time and space become irrelevant, the body remains immobilised in stasis. Physically moving towards the bank or market is now something of an anachronism. The speed of information causes a counterweight. The frenzied raving forces the body to a standstill. The increasing use of computational reality,

fundamentally deterministic in nature, prevents the advent of an evolving future.

Unfortunately, as I have to realise, there is no way of trading marijuana back in time in order to get those few bitcoins back. Funny enough though the customer support from online drug markets is way better than let's say, on Amazon or whatever. This alone could tell us something about post-capitalism, I assume; however, it is hardly surprising given the speculative reality and the absurdities of the crypto-bubble, which of course continues to loop through hyperreality. While Bitcoin is becoming a trusted store of value and other projects like Ethereum have real world applications, a whole generation of meme-coins flooded the market. For example dogecoin as the most famous meme-coin was originally programmed as a joke but is by now one of the largest cryptocurrencies and occasionally even accepted as a payment method. Considering Frederic Jameson's *Postmodernism, or, the Cultural Logic of Late Capitalism* it seems like another contemporary resolution of cultural artifacts as economic commodities. The Shiba Inu meme, as a hollow replication in the form of a cryptocurrency, is nothing more than pastiche, as it lacks any critical impulse. A blind copy of Bitcoin within a cultural token operating in the same market in the same way. At this point, resolution takes on a cultural dimen-

sion, as the algorithmic, technological interconnection of different levels of meaning leads to newly formed connections whose significance is not immediately apparent, precisely because it has only just come into being through digital resolution. With Virilio I drew the image of the frenzied standstill of information processing. Continuing this image of congested information to an absolute point, media influences overlap and give rise to a radical confusion of different layers of information. Media, economy and culture are entangled in polar inertia. When Jameson wrote that, in late capitalism culture has become a commodity, then memecoins represent the point at which even the joke about this commodity is itself sold as a commodity – pastiche, simulacrum and circulation all rolled into a single asset. This phenomenon could be regarded as the cultural logic of resolution. Within abstract digital reality, it is no longer possible to distinguish between real value and code, as they have become inseparable. Value transformed into an object embodying technological possibilities, speculation and culture all at once.

From this financial raving during the last bitcoin cycle the trend evolved to "moon-shot" currencies by attempting to disrupt a social media trend: an influencer would first search for a more unknown crypto with a small market-capitalisation. The so far low investments indicate

there is a large potential for growth. The influencer then invests some money themself and floods socials with promising arguments on the technological advancements of the selected asset. Every teenager who spends a week on those accounts would easily scrape together enough tech investment bullshit linguae to sound convincing enough for a few hours of algorithmic hype. If successful and with some investments later, the market-capitalisation and therefore the price of the currency rises and hopefully ends in an upwards spiral, easily reaching more than a thousand per cent – the moon-shot. Of course this became a weekly habit and organised as the "moon-shot-monday", a competition between crypto influencers, on who triggers the next artificial hype. I might wonder who is actually behind those quite anonymous accounts, considering the cosplay-like animated profiles with the diamond and gem emojis hovering all around. And I wonder who actually cares for the technological distinctions beneath the exchangeable interfaces of those "currencies" which implicate it wouldn't even matter. The corresponding Reddit r/MoonshotMonday thread, meanwhile, claims to be a discussion about "undervalued cryptocurrencies".[47] The way things turned out appears a little different.

Speculation beyond national or central bank currencies is nothing new in itself. Rachel O'Dwyer, a lecturer

in Digital Cultures at the National College of Art and Design, Dublin, argues in *Tokens – The Future of Money in the Age of the Platform* (O'Dwyer, 2023) that economies were always haunted by money-like things that operate as money in certain niches, but upon closer inspection, replace real money in order to track its flow, to keep it within an ecosystem and to surveil a customer. Online-streamers as a current example can get paid by on-platform *tokens*, often just represented as some diamond emoji that are purchased firstly with real money by the viewers, and thereby allow for the platform to track its flow and skirt labour laws and financial regulations. Since no real money was flowing on the platform, the streamers are no real employees. Physical labour carried out by "Amazon Mechanical Turk" workers in the US is regularly remunerated with credit on Amazon gift cards, thereby creating an entire ghost workforce slipping through the financial and social system's net.[48]

O'Dwyer further tracks down the history of tokens, from recording devices back to Mesopotamian clay tokens from 7500 BC. The tokens already represented a storage of barley or silver, similar to the gold-standard. A bill, or a specific piece of clay, as a sign towards a real stored value. Through this conception, tokens exist since the origins of capitalism and are no new phenomena.[49] The dis-

tinction to money lies much more in the source of issuing. Money as media serves as an informational tool and as an infrastructure of transfer, provided by a government. Within platform-capitalism, and the attempt to replace real world governments by digital platforms, tokens are a next-layer abstraction on top of the already unreferenced monetary system. If real money is not backed by anything and appears increasingly as a speculative object, and daily life slips slowly into hyperreality on virtual platforms appearing as public space and as more attractive than the real public, the distinction between money and token fades. The problem here is: who controls the infrastructure? In case of money, a state or government. In case of tokens, a privately owned digital platform. In the case of Bitcoin, a public protocol on private servers. To gain a better understanding of those implications, I would now like to reconnect with Nick Land and Mark Fisher and draw parallels.

Cyber-Capitalism

Drifting back to the CCRU and the concept of hyperstition, cryptocurrencies are deeply engrained: the history of Bitcoin goes far beyond the 2008 White Paper and was back in the 90s, a project crypto-anarchists were romancing with quite successful prior systems. As Finn Brunton portrays in *Digital Cash*, vast parts trace back to the cypherpunk movement and the *Extropian* mailing list, a forum focusing on transhumanism, free markets and digital economies, where the technical predecessors to Bitcoin were conceptualised and developed. Even though Nick Land was not part of this mailing list – the list was more exclusive to the U.S. and featured names like Max Moore, Hal Finney and Julian Assange – he was still ideologically close to their ideas and finally formulated "Meltdown" roughly at the same time in the UK: capitalism does not belong to humans but is an alien technology, an agent by itself, and has to break free from the human species. And cryptocurrencies are the technology for a monetary system that must break free from governments. An idea very similar to the Extropian mailing list, and projected onto current economic complications, a veritable hyperstition whose realisation provides ample reason to explore what is actually going on here.

Bitcoin, as the first of its kind, is indeed a functional system, very successful, and slowly seeping into the global financial infrastructure, but by now also widely regulated by governments. El Salvador even experimented with Bitcoin as its national currency and large countries like the U.S. and China – besides many others – are beginning to establish "strategic bitcoin reserves". The liberation from governmental control has thus largely failed, and ironically, as one might expect, on the opposite side central banks are developing their own digital cash systems like the Digital Euro.[50] It is precisely this development that once again highlights the structural aspect of resolution. Code is real. Digitality is not beyond the material. And so the code becomes the real value law of digital capitalism and compels government intervention.

As implicated with the example of DogeCoin, myriads of further currencies followed Bitcoin and tackled every ungoverned niche of capitalism and still slide through financial regulations. Cryptocurrencies became by now a dodgy mingle of libertarian-anarchist utopia and corporate hell. Sticking once again with the materialist perspective, I found it interesting to examine the companies behind the blockchains and the server farms, as one thing should be clear by now: the virtual runs on a physical machine distributed in a geographic reality, and an investiga-

tion on the physical distributions is an enlightening endeavour. A common concept of a blockchain start-up, for example would be to finance through an in-house cryptocurrency, blurring the line between money and a share, the common form of co-ownership of a public company. Of course the aim is to avoid all laws regarding common stock markets. Consequently, what appears to be a currency is, structurally speaking, more likely to be a share in a blockchain start-up, and, as one might expect, the organisation's chairman also holds the majority of the distributed assets. So what do I actually invest in?

At the materialistic end of the spectrum are the operators of Bitcoin data centres, providing the physical infrastructure. It is interesting to note that, whilst some of them still offer shares, the intended use of the servers is becoming increasingly obscure. The focus seems to shift more and more towards AI, as the biggest public hype surrounding cryptocurrencies appears to be over and at some point – and this is presumably the concern – mining Bitcoins will cease to be profitable. The early Bitcoin community on the other hand remains loyal to its crypto-anarchist origins, while other cryptocurrencies are more specifically designed as an institutionalised currency or even as a corporate infrastructure to launder money. Tether, as an example, is the network with the highest

trade volume, run by an extremely opaque central developing organisation headquartered in the British Virgin Islands – one of the global centres of money laundering – and funds alongside various other crypto start-ups the building of Donald Trump's ballroom.[51] A brilliant example of cybercapital's attempt to supplant governments already rendered hyperreal, given that the president is a former reality-TV star shitposting his way through. But as regulatory pressure increases, these business models are also changing, and Tether is now one of the largest holders of US government bonds. The imagined technologies are staying the same and the decisive factor is once again who uses a technology and for what purpose.

The ambivalence of cryptocurrencies can be defined more clearly through the eyes of Mark Fisher, who himself unfortunately did not write directly on Bitcoin, but whose cultural analysis of cybercapital can be applied neatly. In the same way as the rave dreams had been crushed by a series of dead-end jobs, the liberating utopia of cryptocurrencies turned into an accelerated version of its enemy. Instead of actually delivering the imagined alternative, capitalist realism took over and subsumed the new technology into an even more aggressive version of itself. Within Bitcoin, wealth is extremely unevenly distributed, instead of collective governments, a hyper-

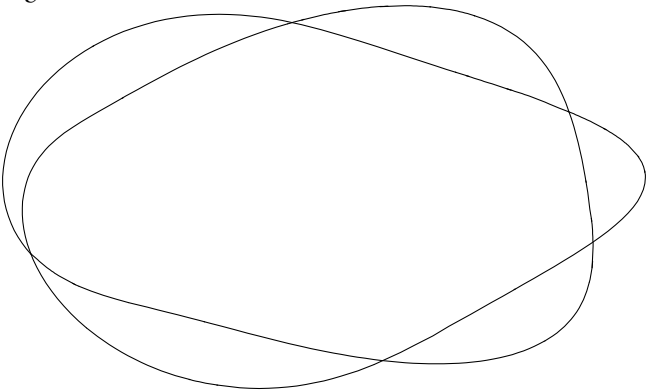
individualism is literally the key – since you, and only you, should have access to a private key, unlocking your Bitcoin – and the whole network is designed to operate out of egoistic financial benefits and not from altruistic collective understanding, since the mining process promises to generate new value. Cryptocurrencies are therefore not the alternative, socially speaking. They became themselves a lost future, a lingering hauntology, preventing real social change.

In this sense Nick Land and Mark Fisher are complementary in their writings. Land's philosophy certainly describes the current economic tech landscape and the financial technologies intended to overthrow the established capitalistic system. The once generated ideas turn into hyperstitions and are exerting a massive influence on politics and the future of capitalism as demonstrated with cryptocurrencies. Mark Fisher, on the other hand, describes the impact on the subject of this development. Even if the economic changes described by Land do indeed occur at first, the situation nevertheless reverses and results in the cultural stagnation described by Fisher. Bitcoin is the perfect example. An accelerationist dream comes true, only to be co-opted by the system and, due to its lack of social implications, obstructs the future. A technology envisioned to overcome capitalism in its current form, but in reality it delivers a reinforcement of old structures and stagnation.

Mark Fisher and Nick Land are not contradicting each other in their analysis, they portray the same technological and cultural circumstance from a different perspective with a different motivation in a different light. Both thinkers are therefore in their way correct, because they describe two sides of the same coin. The difference, then, lies in the predicted implications of acceleration and technologies that were once considered futuristic, like cryptocurrencies. That's the point where Land's hyperreal prophecies fail, but Fisher's review locks in.

Through Baudrillard's lens, a cybernetic triad is formed, reinforcing one another, albeit with macabre implications. Their three models are conceived from the standpoint of codes, signs and systems, not from the standpoint of the subject. Simulacra, hyperstition and hauntology provide answers to the same problem of a future already coded in advance. Whilst hyperstition activates simulation in the direction of the future, hauntology looks disappointedly back into the past. Let's introduce the hyperreality: an indistinguishable twist of the real and the fictional, the double helix intertwining reality and fiction, rendering them mutually dependent. Land, on the one hand, represents through Baudrillard the side of simulation, whilst Fisher embodies realism on the other. One thinker desires to activate the simulation to envision the

future while the other retrospectively applies the realism and depicts its failure. Keeping the double helix of hyperreality in mind and adding the opposing time axes – hyperstition's sight into the future and hauntology's disillusioned gaze into the past – the helix closes into a Möbius strip. Within the logic of codes, signs and systems, there is no escape. According to Baudrillard: "A hell of simulation – no longer a hell of torment, but a hell characterised by a subtle, sinister and incomprehensible twisting of meaning."[52]



Let us now dissolve this mental exercise by once again introducing the economic materialist perspective. As demonstrated, the technologies like Bitcoin and their imaginaries are only presumably contradicting, and from a

strict materialistic perspective, ultimately resolving. So far there is a looping status quo to be sustained and the liberating breakthrough is still an imagination. Already in the first volume of *Capital*, Marx recognised value as an autonomous subject that creates, exploits and thereby determines itself.[53] This autonomous subject within the theory of value can be applied to the hyperreal Möbius strip and portray the loop driven by society through the form of value itself. Code is real and has become the driving force behind value. In digital capitalism, a cryptocurrency such as Bitcoin is the most elegant manifestation of this phenomenon. If we consider the Möbius strip through Marx's lens – and thus outside the logic of pure codes, signs and systems – the loop is a product of the form of value and can be modified accordingly. Nevertheless, there is no clear solution, as in a methodologically rigorous materialist analysis, the breakout cannot be described theoretically, but must first materialise in practice.

Resolution

This exploration amid the absurdities of currencies and tokens primarily highlighted the connection between an accelerationist way of thinking – already criticised by Paul Virilio – the loss of physical references and the emergence of the virtual, the hyperreality described by Baudrillard, and, ultimately, the enduring relevance of the CCRU and the self-referential thinking derived from it. By disassembling cryptocurrencies, a connection from the acceleration of media to the contemporary speculative reality of media is established. Disappointingly, the analysis ends up in a loop that offers no genuine solution.

What remains not fully resolved is the more general structural contradiction between the digital and the analogue. While Nick Land's similarities with Silicon Valley ideologies have made him a prominent figure in libertarian right-wing tech circles – an ecosystem with a sociopolitical interest in cryptocurrencies, reflected in large investments and being obsessed with metaphysical imaginaries implicated in the transhumanist vision of breaking physical boundaries – his thinking still contradicts that of Virilio and Baudrillard who perceive the overcoming of physical restrains as an illusion. Speed as a socio-economic force does not overcome the biological limitations but the

virtual emerges, similar to how the Nixon-Shock in 1971 didn't generate any new wealth but nudged the world economy into speculation. Although the entire economy appears as a raving simulacrum, a polar inertia, producing all the vanishing Mark Fisher analysed, for Land, those abolished boundaries should be broken and enable a liberation. A machinic desire for one, but for others nothing more than a technological fantasy. Experiments with amphetamine as the sacred embodiment of acceleration, aimed at merging technology with biology, are not a sacred substance for meltdown but rather fail to recognise the difference between the phenomenology of the drug with ontological reality. Technology has always challenged the human subject but has never materially altered it. To illustrate the phenomenological resolution, I would now like to tackle Land's categorical contradictions. He has fallen victim to the indistinguishability of the simulation and the real in hyperreality.

Once again we have to return to the example concerning biocomputers since it is perhaps the most far-reaching material illustration of the resolution. The mistake here is to assume that a simulation on a chip – what is referred to as AI – could be merged with its real physical counterpart – the brain. A technology that is far from being developed. We have to zoom in once again to get a bet-

ter understanding. First of all, the term "AI" is deeply misleading and originates from the world of marketing. As previously outlined, it refers to simulations of neural networks that bear only a distant resemblance to the original. A biocomputer converts this simulation back into materiality. To this end, neural networks are synthetically grown from human neurons and utilized by constructing a machine that surrounds these networks. Is this a fusion of man and machine? No. But rather that very reciprocal evolution where concepts from biology are applied to technological developments. With the development of technology, the human subject is urged to gain self-awareness, as the nonhuman other serves as a reflection of one's own human abilities. Cortical Labs, the company whose biocomputer can apparently run the videogame *Doom*, promotes the idea that by using real neurons it is no longer developing "artificial intelligence" but "actual intelligence." I would argue that this very statement is misguided – it also originates from marketing – and deliberately confuses, as from the perspective of the human subject, the technological product is still in existence since the game itself is still run on silicon processors and within the realm of the simulation. It is still a computational product simulating a behaviour. Merely the control unit replacing a playing human is a lab-grown neural net. Nothing has

merged within the apparatus; yet, viewed from the outside, it is precisely the next coil of the hyperreal snake, confusing the distinction and rendering it irrelevant.

Nevertheless, some fascinating conclusions can be drawn. The neural networks used by the biocomputing startups are assumed to optimise predictability. Lab grown neural networks in a petri dish are for this reason trained over applied electrodes with electrical noise. Simplified: if the slice of brain moving the character through the world of *Doom* dies, it gets shocked with noise. Then it learns. The more predictable the computation becomes for the neural network, the better, until the network can play the game flawlessly. The underlying principle is formulated within the free energy principle, describing a form of self-organisation in information physics. Developed by Karl Fristion, the principle suggests that all biological systems learn from minimising surprises. Information becomes predictable by learning / constructing new connections in the network and executing accordingly. Cortical Labs built a machine under these assumptions and suggests it proves the principle. One could assume a human learns the same way – maybe not through stimuli over electrodes but through real-world discomfort and delights until life is as predictable as possible. However, this conclusion is only a first hint and maybe even entirely irrelevant, as the experi-

ment does not extend beyond the apparatus. A machine designed around a particular principle can only disprove that principle within the machine itself. It cannot prove it to be a universal principle.

What the biocomputing startup achieved is not a fusion of man and machine but a resolution of man and machine. It is not a complete human being sitting in front of a computer any longer but a grain of brain on a microchip. Within this cybernetic control loop, the theory is complete. But does a small two-dimensional slice of the brain represent a human being? No. A more precise conclusion would be: laboratory-grown neural networks are plastic and robust enough to be integrated into a technically generated perception-action control loop, where they can improve their performance through feedback – even if the machine has to be tailored specifically to the tissue and the adaptation is far from perfect. The same way as a human is annoyed by a computer producing unreadable information but ultimately learns how to navigate around it, the lab-grown neural network adapts until it operates the machine widely errorless. This is despite the fact that there lies an enormous effort behind the interface and interaction design to make the computer somehow user-friendly. Over decades humans then learned how to operate and better design and adapt the computational machine to

minimise errors. The same applies to this new type of computer.

It was a step-by-step mathematical evolution from the development of neuroscience towards functional neural networks until the digital replica is more of a statistical tool with slight inspirations from the original. The biocomputers turn this axis around. The significantly increased learning speed was demonstrated, but so too was the inability to programme the lab-grown neurons. On the contrary, the whole machine surrounding it has to be extremely well adapted for anything to work at all. The lab-grown neurons are only kept alive using dopaminergic substances, anti-epileptic drugs and lesions while still producing inconsistent outputs. Returning from a mathematical concept to its original, a similar step-by-step biomechanical approximation towards the conceptual is necessary to let the two worlds interact with each other.

Resolution does not merge in a materialistic way; it granulates and blends. As long as the resolution does not reach the limits of measurability, no ontological question is raised. Everything in between is biotechnological interface and interaction design, but not a merging of the two. From a phenomenological perspective, however, resolution transcends the boundaries of perception. Consequently, we can no longer distinguish the digital from

the analogue, nor the virtual from the real. These intertwined phenomena have merged to such an extent that they cannot be distinguished anymore. This confusion is of a perceptual and epistemological nature, not an ontological one. Particularly when there is a massive economic engine behind it that can only keep running by maintaining this confusion. Just like Nick Land's use of amphetamine was a phenomenological simulation, finally shattering against the reality of the material world, an examination of the functioning mechanisms of "AI" and "biocomputing" deconstructs the current illusions.

I consider the term *resolution* to be an accurate description of the processes analysed so far. What occurs is neither a blank vanishing of material reality, nor a materialisation of the virtual, but an assimilation of the two conceptualised worlds. On a cultural level, the virtual is becoming increasingly real and the real increasingly virtual. Baudrillard's description of hyperreality is the accurate perspective on the processes taking place in the context of resolution. A double helix composed of the real and the fictional spiraling around each other, but blurred and indistinguishable from distance. On a materialistic technical level, digital technology operates through resolution and renders it as a structural part of the real. Thereby the cultural blurring is reproduced. Returning to the example of

Bitcoin: the server farms generating Bitcoins are grotesque, as they give physical form to a theoretical concept to which, initially, nothing real was inherent. But nevertheless, it is sustained as a long-term vault for value as gold was and still is. Materialistically, it became a reality. Above all, the materialisation of the Bitcoin technology – in an ontological sense – blurs the distinction between the virtual and the real, since, once again, from a materialistic perspective there is nothing virtual. What was initially designed as a construct necessary to reflect on the processes taking place within the virtual machine is deconstructed. The machine and its effects remain real at all times. This dual incorporation into reality is the process of resolution.

To make the resolution more tangible, I would like to return once more to the film *Holy Motors*. We recall that Oscar is chauffeured through Paris in a limousine. Outside the limousine, he performs various roles to interact with the physical world. The interchangeable characters are the fictions; the real Paris has become hyperreal, and the limousine is the capsule of reality moving through the fictions. Oscar laments the vanishing of the machines, particularly the cameras, whose presence is now barely noticeable. "They used to be heavier than us, then they became smaller than our heads. Now you can't see them at all." The punchline, however, is not that the cameras have

disappeared and ceased to exist, but rather they have become a structural part of reality. With the disappearance of the cameras, the distinction between the fictional and the real is lost, and what remains is reality itself – which had always been there before, yet had been altered by the fiction, without, however, losing any of its reality.

The same situation arises in the development of all technologies, including those related to computerisation. But the computer is, in its functionality, more complex than a distinction between the real and the fictional. It represents a distinction between the digital and the analogue, even though it is always analogue in its physical form. As the computer disappears from the world, symbolically "they melt into the textures of everyday life", its mode of operation is incorporated as a structural part of reality. Like the fictional of the act in *Holy Motors* dissolves into the real, the digital remains within the analogue, without requiring the physical presence of a computer. The digital is analogue. And the structural aspect operates on several levels: the camera not only creates a hypothetical divide between the fictional and the real, but also allows the fictional to come into being in front of the camera. Subsequently, an entire cinematic culture even develops around this technological achievement. In the same vein, a second layer of resolution overlaps itself. At its core a com-

puter is a calculator. Nothing more. But just as the camera not only creates a hypothetical divide between the real and the fictional, so too do the implications of the computer extend beyond this division between the analogue and the numerical. Cinema has, in Baudrillard's sense, become a structural part of society. The computer is now exerting the same impact. That is the resolution. Not only does this blur the distinction between what is real and what is fictional, but it also blurs the distinction between what is biological and what is computational. Within resolution biology is a computational technology.

Resolution as a process measures, since the digital needs data to compute. By capturing the world, a fragmentation of analog reality is carried out, and depending on the resolution, parts are eliminated by sliding through the measuring grid. A computational reality is constructed. Within the computational, data is reconfigured, disconnected and reconnected. Analog material is resolved in the digital and a vast order lies behind this algorithmic structure. At the same time, the digital is still a material, and nothing transcendental, and the computational is therefore not merely conceptual but also analog. Digital reality is resolved in the analog. Phenomenologically, resolution was always merged and never untouched. It is a shared truth. Resolution used to be the interface between

the digital and the analogue, but the once two-dimensional plane is expanding. Resolution is within the evolutionary purpose and can only crave for the future. Resolution manifests and is materialising. And resolving long enough, resolution ultimately births a new human subject and the technological other to reflect oneself.

Resolution #5 – Ego Death

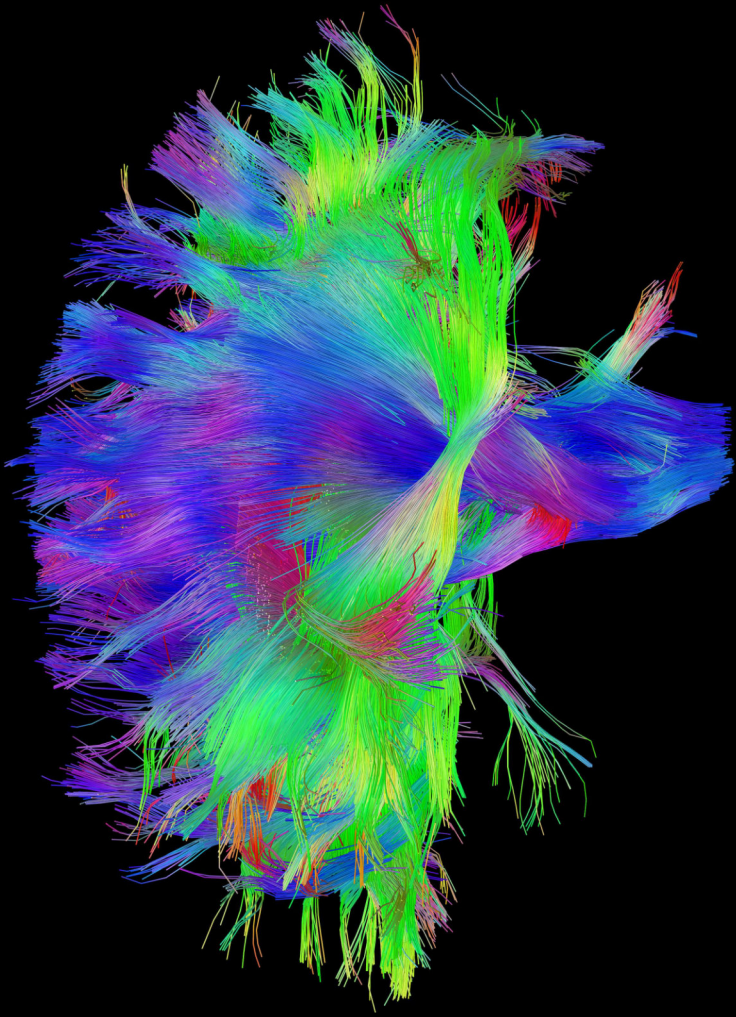
{

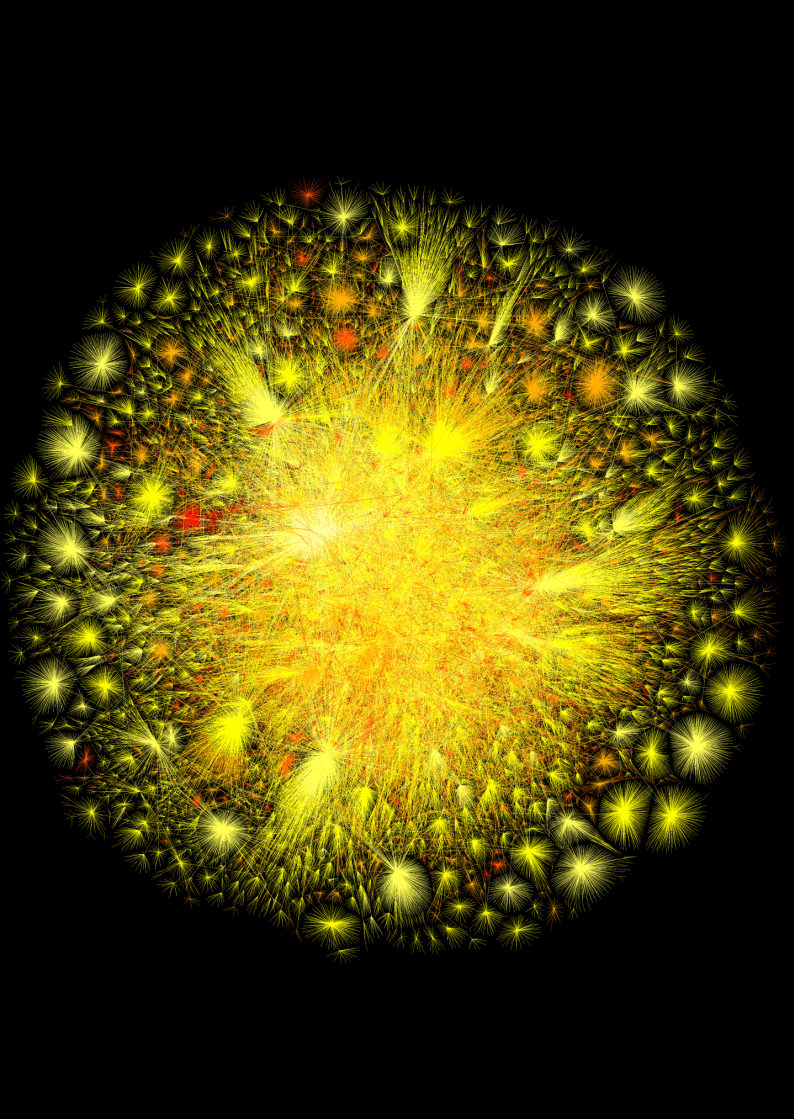
My mind vanished.

The more synchronous my interactions with cybernetic machines become, the less aware I am of my actions. Since the pixels and the frame rates disappeared I glided into the machine. I lose consciousness and become an interaction within a mechanism. I still wake up from time to time and realise which application I am using but for moments my mind is gone. I feel disoriented, as if another kind of force possesses my consciousness, as if I'm not quite myself anymore. What happens in this state of trance? What kind of larger structure takes control over me? Which part of myself became an element of the interaction and which stayed with me? The term flow state would suggest I was hovering between bits and bytes. Maybe it's not all wrong? Undeniably the interlinked global brain of the internet generates a collective will. Waves of movement emerge from a vast network of human nodes, like a disruption of firing neurones.

Maybe I'm just a bacterium of an already larger spirit.

}





The two illustrations shown are graphical representations of information systems. One depicts the connections of a human brain, visualised by the Human Connectome Project[54] and the other the routing paths of the internet, as illustrated by the OPTE Project.[55] The resulting information structures reveal striking similarities and raise the question of whether the internet itself could ever be a conscious entity, given that there are parallels not only in the information pathways but also in the algorithms coordinating the flow of information. For example, in the late 1980s, the computer scientist Van Jacobson developed the AIMD algorithm within the TCP/IP protocol stack to prevent the growing internet from collapsing due to ever-increasing traffic. In 2017, neurobiologists at the Salk Institute then discovered that the brain uses exactly the same biomechanical algorithm for the same purpose.[56] If through a disposition, the biological AIMD algorithm fails and the amount of information overflows, for example, through a stroboscope light, an epileptic shock is the result.

The extent to which the analogy of a global brain can advance cybernetic understanding is the subject of interdisciplinary research. With regard to my theory of resol-

ution, we are not confronted here with some kind of a non-human entity; rather, this very structure is a collective condensation of the resolution I have theorised. Concepts become things, and since the internet is humanity's information infrastructure – rooted in scientific exchange, access to knowledge and interconnectedness – it manifests itself on the information level as such. The structural and algorithmic similarities arise from – at least partly discovered – universal laws of complexity. The internet is therefore a global brain in the sense of a cybernetic fusion of existing flesh-and-blood brains. A global brain, arising from material, technological and cultural resolution. Two sides of the same mind. But it does not signify the liberation of the individual human subject but rather the resolution of the mind into a bizarre, larger structure comprising billions of interwoven human neural networks.

The process of resolution ultimately carries a resolution of the subject. Within the cybernetic feedback loop, the human condition is dissolved and becomes a knot in a larger web of agents. The common understanding of what a subject is therefore ends, and a more open, distributed subject, a "hypersubject" constitutes. From a singular point of reasoning – the earlier assumed subject – this could be perceived as a dissociation, a fragmenting, a distribution of the own reasoning. Functions of a closed

mind are externalised and thereby parts of a once-whole drift apart. Gilles Deleuze, whom I briefly introduced earlier in connection with the CCRU, would describe this state as a dividual, the divided, distributed form of an individual. Elements fundamentally necessary for a subject's functionality in society are externalised and monitored. A society of control emerges, whose power is reflected in granular details of relationships.

Ketamine as a dissociative drug and as a contemporary cultural phenomenon could then be understood as a materialisation of this mental state. The substance occurs on a unique cross section from pop culture and nightclubs to the granular controlling tech world of Silicon Valley. Multi-billionaire tech CEOs are talking openly about their ketamine consumption and the drug is not perceived anymore as a shady narcotic but more like a biohacking tool. Through this convergence, ketamine could be read as the substance to experiment with the possibilities of a divided state of mind. On a high dosage, a colloquial K-Hole is achieved, a state of deep dissociation, where the ego is resolved. A perceived relaxation from an overstimulated reality. A drug to align with one's fragmented identity.

While one may feel disoriented and puzzled, major corporations are working precisely towards this future, backed by the belief the fusion of the mind with AI will

create some sort of next evolutionary leap for the human condition – whatever that means. Biocomputing start-ups appear as the next emerging element of AI development, with their research aimed at further accelerating computational neural networks and moving away from silicon. After all, the assumption the wholeness of the world could be represented with information and the mere image of reality would mean no difference than reality itself, seems only logical, provided one thinks consistently from the perspective of information science. The material basis and the processes involved in the development of human cognition are fundamentally different, though.

To shine a more political light on this matter, I want to finally also critique the displayed process. What the neoliberal agenda once started with the resolution of social structures into individual, more and more – at least in concept – autonomous subjects is continued with a resolution of the individual subject into a divided, fragmented, dividual version of it. The ability to counter authoritarian systems is further eroded. The dissociated mind, the dividual, is the perfect victim of the control society. That leaves the question: How to counteract?

I cannot offer any fundamentally new answer on how to tackle the cybernetic surveillance and control machine. Even worse, more of a criticism of existing strategies. The outcome will then be a productive one. Hans Christian Dany, whom I have already introduced with his writings about speed, suggests in his two essays *Morgen werde ich Idiot*, translated to "Tomorrow I'll be an idiot," and *Schneller als die Sonne*, translated to "Faster than the sun", two options for escaping cybernetic control: the first tactic is to turn yourself into the system's "idiot" by failing to provide useful outputs for the automated feedback loops. Although not an idiot in the conventional sense. The term idiot itself originates from the ancient Greek "idiotes," meaning as much as a "private person," someone of the polis, who neglects being part of the public political life. To become an idiot within the cybernetic control loop, one has to encapsulate, therefore, from the permanent algorithmic input and output.[57] One has to be "unreadable" for the machine, resulting in a "fall outside of the grid". At best, to the extent of entire detachment. The resolution I theorised is a very well-organised, algorithmic process, without chaotic structures. Maybe too large for the structures to be recognised as such but still a result of

the grand calculation performed in countless server farms and mobile devices. Hans-Christian Dany further speculates about noise production as unreadable information for the system. In regard to my theory, it would be understood as a noise within the resolution. The system cannot comprehend the chaotic data and has to expand to make sense of the inserted information until the complexity reaches a tipping point and the system loses control of its parts.[58] Dany draws parallels to the schizophrenic, in the sense of Deleuze & Guattari, one should become. The dissociated mind is activated and generates countless new connections to overload the computational pattern recognition. But for Dany this is not good enough. The idiot would be a radicalised version of the schizo and entirely detached from the cybernetic system.

The second strategy would be a continuation of the first one and suggests avoiding computability. The polar inertia of communication results in stagnation of social progress. The cybernetic control society determines the power to act and predetermines possibilities, therefore losing their degrees of freedom. The only way to escape resolution would mean to turning off the screen and disconnect to accept the chaos of the physical world. It first may feel insecure but the alternative would be to stagnate within predetermined patterns. Accepting the unknown,

the unpredictability of the future would be a first step for Dany to overcome the stagnation.[59] Deceleration as a way to cope with light-speed communication is within the cybernetic loop and reads as a strategy to stabilise the feedback and serve the system instead of counteract on it. A real physical acceleration is demanded outside of the information system.

The resolution I theorised here suggests a different strategy for countercultures. The reason lies in the materialistic perspective, the post-structuralist perspective and the resulting structural resolution itself. Of course one can disconnect from the cybernetic feedback loop, but it would lead to a disconnection of oneself. I think Dany's diagnosis is generally correct but it would demand a reversal of the resolution, the technological assimilation. Social visions beyond the fully networked, the resolved system are technologically unthinkable, as they would need an immense rejection of technology on all levels. It seems highly unrealistic, given the emerging comfort existing despite the control. Theoretically the idiot can, of course, exist but is a very lonely figure. Dany's hope to slowly establish a parallel society to overcome the absolute one sounds romantic but will crash on the constant human forces pulling in the other direction of connectivity and predictability. In the shadow of structural assimilation,

flooding the system with noise would create a feedback loop, rebound upon one's self and infect the subject itself. Apart from the strain to which the brain is subjected by chaotic information – let us recall the training of neural networks in biocomputers – one would become unreadable for the social and suffer as an isolated subject. In this context, the CCRU was partly right: the only way out is through. I would, however, question whether there is an "out" at all. Capitalism may well be overcome in its present form, but the mutual evolution of the human subject and technology will endure. The deeper computerisation penetrates society and culture, the more it will ultimately resolve it. From my perspective, a counterculture can only endure if it keeps pace with precisely this technological development, appropriates it and turns it into a tool. The new counterculture will need to weaponize the methods of the absolute fully networked system and emerge from it and not outside of it.

Politically a human subject is capable of free will against the degrees of freedom an algorithm lacks. The current development of neural networks and LLMs tends to attribute agency to machines, but this is a marketing plot and, in my view, serves solely to maximise profits. From a political perspective, this fatally takes away the degrees of freedom a subject possesses, as a human with free

will is associated with a computer programme that operates in strictly deterministic patterns. By transferring decision-making power to the technology, the manufacturers are absolving themselves of responsibility. A counterculture can only succeed using the methods of our technologically advanced present. The crucial point here is to bring these tools under the democratic system's ownership and control to flourish the population's agency and not their suppression. If one remains at the stage of a consumer and allows oneself to be passively guided by algorithmic recommendations, one's own agency is gradually restricted until one has become analogous to the laboratory-bred neural network within a bio-computer: imprisoned in a tailored machine, perfectly able to execute a programme. The technology demonstrated the ability of the human brain to adapt even to the most extreme environments under constant shocks of information. I would see it more as a cause of concern. The balance of power must be inverted: it is not the machine training the neural network, but people – the real neural networks – must once again take over the control of the machines.

Outro

Resolution is, first and foremost, a technical metric determining the information content of the digital realm. In this essay, I have attempted to broaden this meaning and extend it to a cultural process characterised by a feedback loop between technological developments and the human subject being consequently in a state of constant flux. What is significant here is the overlap of these processes at the very moment when technological developments are primarily leading to computerisation and the virtual is becoming ever more deeply embedded in culture and society. Here, resolution takes on the meaning of both, a metric and the phenomenological gap between the analog and the digital, the real and the virtual, as the virtual is technologically as a materiality resolved and, in a figurative sense, resolved in terms of time and space.

As I now continue my argument from a materialist perspective and regard not the appearance of the virtual but its materialistic components as something real, resolution takes on a third meaning – that of the technological-agential – since it is precisely this metric and phenomenological gap producing the structural implications on an economic, social and cultural level. For Virilio, this gap, taken to its extreme, would lead to polar inertia. In this

process, the subject and technology increasingly intertwine, much like the interplay between the real and the virtual in the hyperreality described by Baudrillard. The physical extension through machines and increasingly digital technologies gradually leads to the multiple resolutions of the subject. At this point, resolution collapses several levels of meaning within each other.

Obsessed with acceleration as a socio-cultural force, one could now also interpret the meltdown described by Nick Land as a further instance of resolution within this process. Taking into account the evolution of biology and technology to date, as well as their inherent incompatibility, I have come to the conclusion the result is not a meltdown, but rather an ongoing evolution – culturally speaking – more likely leading to the hauntology described by Mark Fisher. The technology of cryptocurrencies – more precisely, Bitcoin – makes these assumptions tangible. A cultural hauntology, a structural collapse of the real in terms of resolution and a collapse of the build upon theories of value into a hyperobject containing it all. Biocomputers, as a further instance of resolution, are another technology illustrating the disappearance of technology and its associated integration into the real.

How can one draw productive conclusions from this? First of all, I do not wish to view it as an overly negat-

ive process of loss. From a fixed vantage point in time, the last decades may indeed appear to be a continuous decline of the real. But the real is constantly being reproduced anew, and taking a look back to an earlier point in time, a similar decline of what appears real can be observed. In this sense, the approaches to counterculture within this construct also strike me as misguided, as they would force the individual to disconnect from all systems. Rather, I see an urgent political need to become even more aware of the power of digital technologies and their social implications.

The human subject of the future will not gain degrees of freedom but, considered from our perspective, is far more likely to lose even further due to increasing technological dependency. Yet this is not necessarily a negative process. The cybernetic merging of subjects into a hypersubject simultaneously enables an unprecedented form of collectivisation that can become politically powerful to a new extent. The utopia of the internet – the free availability of knowledge and interconnectedness – lives on. Once again, it is more important than ever to bring the infrastructure underlying this collectivisation under public control and free it from the grip of individuals whose interest in the common good appears to be rather limited. The internet constitutes a public space, comparable to a city. Social networks should be understood as a public

square where markets, gatherings and demonstrations can take place. If this infrastructure is controlled by a single instance, it gives the impression of a new fascist system. It must be liberated.

The experience of the internet is like a drug. An insane rush of speed, interaction and fragmentation. An overwhelming flood of images – a rave of information that is addictive. We need to take on a new responsibility towards this new cybernetic drug. Finally, I am not convinced that the future of the social lies in virtual systems. It is far vaster to reclaim the real, physical streets and squares and wrest them from the grip of corporations, governmental control and surveillance.

Notes

1. FinalSpark, „BIOCOMPUTING – The next evolutionary leap for AI“ FinalSpark, on 06.06.2026, https://finalspark.com/.

2. Alon Loeffler, „Living human neurons play Doom on a CL1“ Cortical Labs, on 06.06.2026, https://www.corticallabs.com/doom.html.

3. FinalSpark, „BIOCOMPUTING" on 06.06.2026, https://finalspark.com/.

4. Paul Virilio, *Speed and Politics*. (South Pasadena: Semiotext(e), (1977) 2006), 39.

5. Paul Virilio, *Speed and Politics*. (South Pasadena: Semiotext(e), (1977) 2006), 30.

6. Paul Virilio, *Speed and Politics*. (South Pasadena: Semiotext(e), (1977) 2006), 149-150.

7. Hans-Christian Dany, *Speed – Eine Gesellschaft auf Droge*. (Hamburg: Edition Nautilus, 2008), 6.

8. Hans-Christian Dany, *Speed – Eine Gesellschaft auf Droge*. (Hamburg: Edition Nautilus, 2008), 29-30.

9. Hans-Christian Dany, *Speed – Eine Gesellschaft auf Droge*. (Hamburg: Edition Nautilus, 2008), 43-44.

10. Hans-Christian Dany, *Speed – Eine Gesellschaft auf Droge*, 29-30.

11. Hans-Christian Dany, *Speed – Eine Gesellschaft auf Droge*. (Hamburg: Edition Nautilus, 2008), 36.

12. Paul Virilio, *Rasender Stillstand*. (Frankfurt am Main: Fischer Taschenbuch, (1990) 1997), 136.

13. Paul Virilio, *Rasender Stillstand*. (Frankfurt am Main: Fischer Taschenbuch, (1990) 1997), 128.

14. Paul Virilio, *Rasender Stillstand*. (Frankfurt am Main: Fischer Taschenbuch, (1990) 1997), 151.

15. Karl Marx, *Das Kapital*. (Köln: Anaconda Verlag, (1872) 2009), 49.

16. Jean Baudrillard, *Der symbolische Tausch und der Tod*.

(Berlin: Matthes & Seitz, (1976) 2022), 46.

17. David Cronenberg, dir. *Cosmopolis*. (Alfama Films, 2012)

18. David Cronenberg, dir. *Cosmopolis*. (Alfama Films, 2012)

19. Leos Carax, dir. *Holy Motors*. (Pandora Film, 2012)

20. Leos Carax, dir. *Holy Motors*. (Pandora Film, 2012)

21. David Cronenberg, dir. *Cosmopolis*. (Alfama Films, 2012), 00:44:13

22. Leos Carax, dir. *Holy Motors*. (Pandora Film, 2012), 01:03:10

23. Leos Carax, dir. *Holy Motors*. (Pandora Film, 2012), 01:03:18

24. Jean Baudrillard, *Der symbolische Tausch und der Tod*. (Berlin: Matthes & Seitz, (1976) 2022), 180.

25. Jean Baudrillard, *Agonie des Realen*. (Berlin: Merve

Verlag, 1978), 25.

26. Nick Land "Meltdown" CCRU, on 14.09.2026, http://www.ccru.net/swarm1/1_melt.html.

27. Nick Land, *Fanged Noumena*. (UK: Urbanomic / Sequence Press, 2011), 319.

28. Nick Land, *Fanged Noumena*. (UK: Urbanomic / Sequence Press, 2011), 629.

29. Gilles Deleuze & Félix Guattari. *Anti-Ödipus – Kapitalismus und Schizophrenie.* (Frankfurt am Main: Suhrkamp Verlag, 2021 (1972)

30. Gilles Deleuze, "Postscript on the Societies of control" The Anarchist Library on 02.11.2026, https://theanarchistlibrary.org/library/gilles-deleuze-postscript-on-the-societies-of-control

31. Mark Fisher, *Ghosts of My Life*. (Hampshire: Zero Books, 2014), 8.

32. Mark Fisher, *Ghosts of My Life*. (Hampshire: Zero Books, 2014), 9.

33. Mark Fisher, *Ghosts of My Life*. (Hampshire: Zero Books, 2014), 8.

34. Mark Fisher, *Ghosts of My Life*. (Hampshire: Zero Books, 2014), 98.

35. Mark Fisher, *Ghosts of My Life*. (Hampshire: Zero Books, 2014), 14.

36. Kurt Borg, "Foucault on Drugs: The Personal, the Ethical and the Political in Foucault in California" CBS Open Journals on 02.11.2026, https://rauli.cbs.dk/index.php/foucault-studies/article/view/6077

37. Finn Brunton, *Digital Cash – The Unknown History of the Anarchists, Utopians, and Technologists who Created Cryptocurrency*. (Princeton: Princeton University Press, 2019), 21.

38. Finn Brunton, *Digital Cash – The Unknown History of the Anarchists, Utopians, and Technologists who Created Cryptocurrency*. (Princeton: Princeton University Press, 2019), 21.

39. Finn Brunton, *Digital Cash – The Unknown History*

of the Anarchists, Utopians, and Technologists who Created Cryptocurrency. (Princeton: Princeton University Press, 2019), 23.

40. Finn Brunton, *Digital Cash – The Unknown History of the Anarchists, Utopians, and Technologists who Created Cryptocurrency*. (Princeton: Princeton University Press, 2019), 158.

41. Satoshi Nakamoto, *Bitcoin: A Peer-to-Peer Electronic Cash System*. (2008), 2.

42. Bitbo "Bitcoin Realized Price", on 14.09.2026, https://charts.bitbo.io/realized-price/

43. Bitbo "Bitcoin Network Energy Consumption Estimates", on 14.09.2026, https://charts.bitbo.io/energy-consumption/

44. Unknown Author / Somehow in my private Photo Library "Artifact of Hyperreality", on 02.11.2026

45. Finn Brunton, *Digital Cash – The Unknown History of the Anarchists, Utopians, and Technologists who Created Cryptocurrency*. (Princeton: Princeton University

Press, 2019), 156.

46. Finn Brunton, *Digital Cash – The Unknown History of the Arachists, Utopians, and Tecchnologists who Created Cryptocurrency*. (Princeton: Princeton University Press, 2019), 158.

47. Reddit "Reddit – MoonshotMonday", on 14.09.2026, https://www.reddit.com/r/MoonshotMonday/

48. Rachel O'Dwyer, *Tokens – The Future of Money in the Age of the Platform*. (London: Verso, 2023), 42

49. Rachel O'Dwyer, *Tokens – The Future of Money in the Age of the Platform*. (London: Verso, 2023), 52

50. Rachel O'Dwyer, *Tokens – The Future of Money in the Age of the Platform*. (London: Verso, 2023), 68

51. Kit Maher, Jake Tapper, Alejandra Jaramillo "White House releases list of donors for Trump's multi-million-dollar ballroom", on 14.09.2026, https://edition.cnn.com/2025/10/23/politics/ballroom-donors-white-house-trump

52. Jean Baudrillard, *Agonie des Realen*. (Berlin: Merve Verlag, 1978), 32.

53. Karl Marx, *Das Kapital*. (Köln: Anaconda Verlag, (1872) 2009), 156.

54. Human Connectome Project, on 30.10.2026, db.humanconnectome.org

55. OPTE Project, „The Internet 2010" on 30.10.2026, http://content.opte.org/content/opte/maps/static/opte-2010.png

56. Jonathan Y Suen, Saket Navlakha "A feedback control principle common to several biological and engineered systems ", on 14.09.2026, https://pmc.ncbi.nlm.nih.gov/articles/PMC8889180/

57. Hans-Christian Dany, *Morgen werde ich Idiot*. (Hamburg: Edition Nautilus, 2013), 119.

58. Hans-Christian Dany, *Morgen werde ich Idiot*. (Hamburg: Edition Nautilus, 2013), 102.

59. Hans-Christian Dany, *Schneller als die Sonne*. (Ham-

burg: Edition Nautilus, 2015).

Bibliography

Baudrillard, Jean. *Der symbolische Tausch und der Tod*. Berlin: Matthes & Seitz, (1976) 2022.

Baudrillard, Jean. *Agonie des Realen*. Berlin: Merve Verlag, 1978

Borg, Kurt, "Foucault on Drugs: The Personal, the Ethical and the Political in Foucault in California" CBS Open Journals on 02.11.2026, https://rauli.cbs.dk/index.php/foucault-studies/article/view/6077

Brunton, Finn. *Digital Cash – The Unknown History of the Anarchists, Utopians, and Technologists who Created Cryptocurrency*. Princeton: Princeton University Press, 2019.

Bitbo "Bitcoin Network Energy Consumption Estimates", on 14.09.2026, https://charts.bitbo.io/energy-consumption/

Bitbo "Bitcoin Realized Price", on 14.09.2026, https://charts.bitbo.io/realized-price/

Cosmopolis. Directed by David Cronenberg. 2012. Film. Alfama Films

CNN "White House releases list of donors for Trump's multi-million-dollar ballroom", on 14.09.2026, https://edition.cnn.com/2025/10/23/politics/ballroom-donors-white-house-trump

Dany, Hans-Christian. *Morgen werde ich Idiot – Kybernetik und Kontrollgesellschaft*. Hamburg: Edition Nautilus, 2013.

Dany, Hans-Christian. *Speed – Eine Gesellschaft auf Droge*. Hamburg: Edition Nautilus, 2008.

Dany, Hans-Christian. *Schneller als die Sonne*. Hamburg: Edition Nautilus, 2015.

Deleuze, Gilles & Guattari, Félix. *Anti-Ödipus - Kapitalismus und Schizophrenie I*. Frankfurt am Main: Suhrkamp Verlag, 2021 (1972).

Deleuze, Gilles. "Postscript on the Societies of control" The Anarchist Library on 02.11.2026, https://theanarchistlibrary.org/library/gilles-deleuze-postscript-

on-the-societies-of-control

FinalSpark, „BIOCOMPUTING, The next evolutionary leap for AI“ FinalSpark, on 06.06.2026, https://finalspark.com/.
Fisher, Mark. *Ghosts of My Life*. Hampshire: Zero Books, 2014.

Holy Motors. Directed by Leos Carax. 2012. Film. Pandora Film.

Land, Nick. “Meltdown” CCRU, on 14.09.2026, http://www.ccru.net/swarm1/1_melt.html.

Land, Nick. *Fanged Noumena*. UK: Urbanomic / Sequence Press, 2011.

Loeffler, Alon. „Living human neurons play Doom on a CL1“ Cortical Labs, on 06.06.2026, https://www.corticallabs.com/doom.html.

Marx, Karl. *Das Kapital*. Köln: Anaconda Verlag, (1872) 2009.

Nakamoto, Satoshi. Bitcoin: *A Peer-to-Peer Electronic*

Cash System. 2008

O'Dwyer, Rachel. *Tokens – The Future of Money in the Age of the Platform*. London: Verso, 2023.

Reddit "Reddit – MoonshotMonday", on 14.09.2026, https://www.reddit.com/r/MoonshotMonday/

Suen, Jonathan Y & Navlakha Saket. "A feedback control principle common to several biological and engineered systems ", on 14.09.2026, https://pmc.ncbi.nlm.nih.gov/articles/PMC8889180/

Virilio, Paul. *Speed and Politics*. South Pasadena: Semiotext(e), (1977) 2006.

Virilio, Paul Virilio. *Rasender Stillstand*. Frankfurt am Main: Fischer Taschenbuch, (1990) 1997.

Acknowledgements

I would like to thank everyone without whom this thesis would not have been possible.

First and foremost, I would like to thank Petra Klusmeyer for the countless conversations, moments of inspiration, insights and her tireless guidance throughout the writing process.

I would also like to thank Fahim Amir for his broad perspective, as well as for his further considerations, suggestions and motivations.

And finally, I would also like to thank everyone who has supported me along the way, proofread my work or helped me reflect on my ideas through our discussions.

