





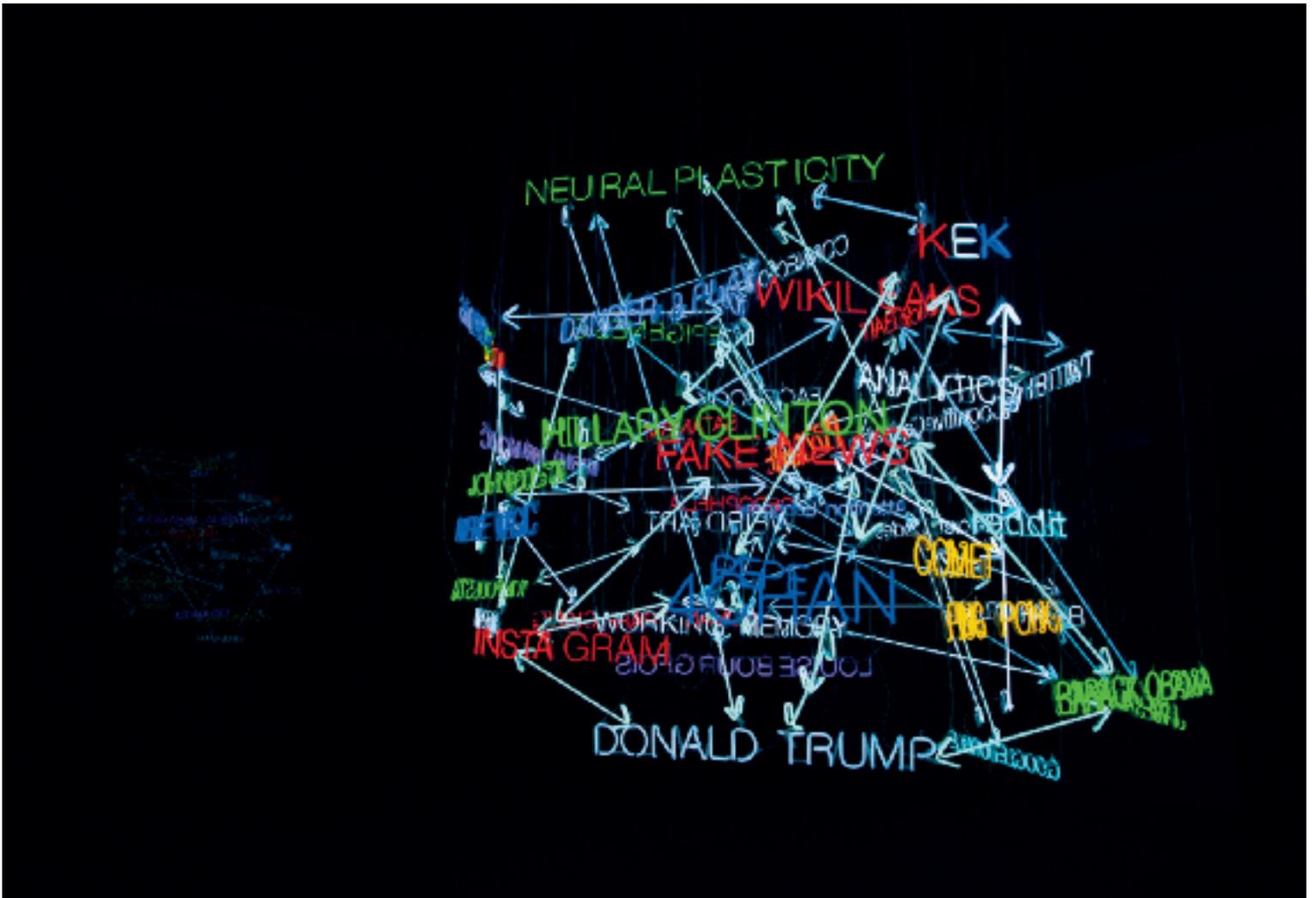
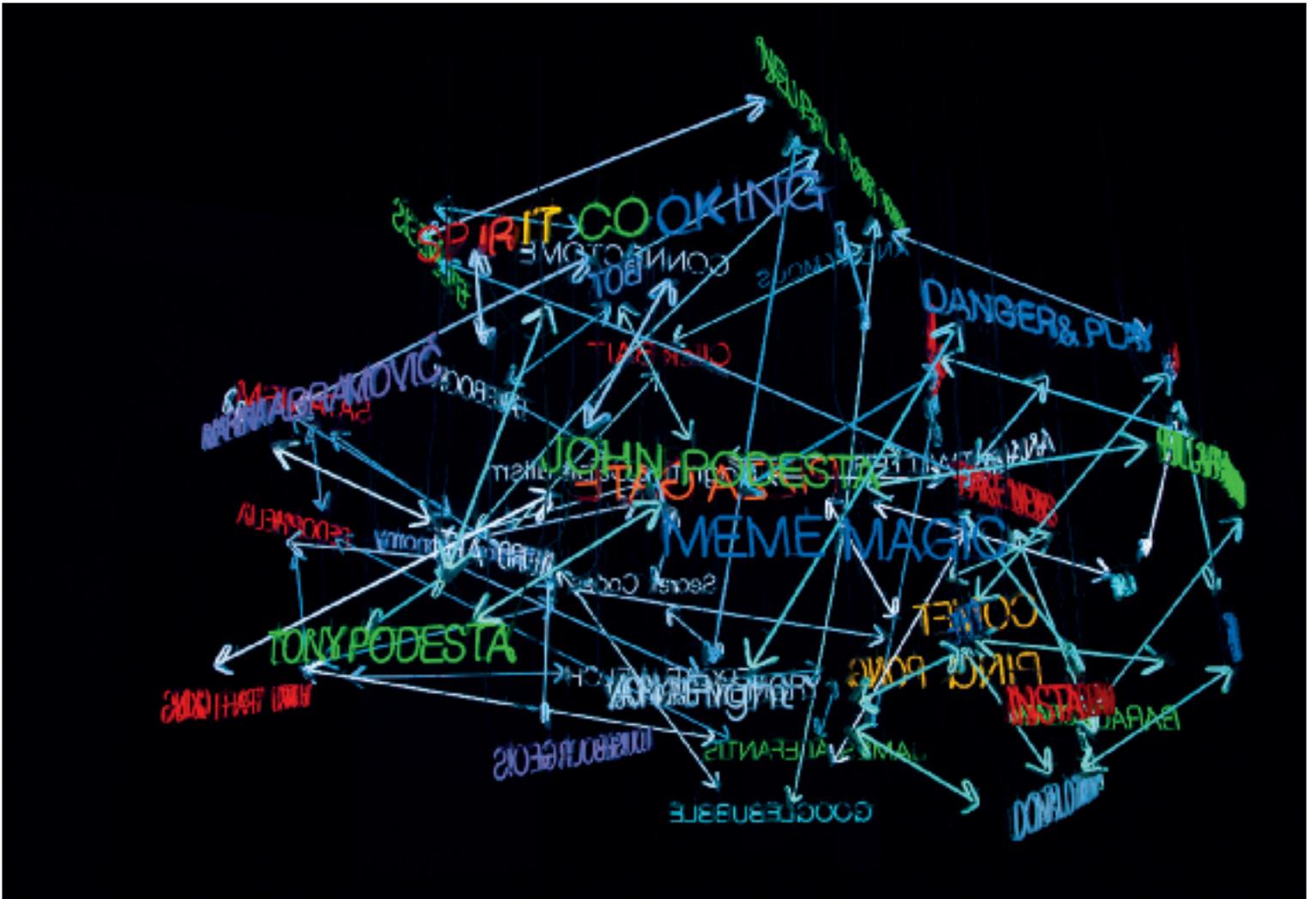
# On Cognitive Capitalism: An Interview with Warren Neidich by Hans Ulrich Obrist

Following the 2018 Berlin edition of Saas-Fee Summer Institute of Art (SFSIA), Hans Ulrich Obrist—artistic director at the Serpentine Galleries, London—sat down with founder and director Warren Neidich to ask about cognitive capitalism, the overarching theme of the institute, and how it relates to his own expanded artistic practice.

**HANS ULRICH OBRIST:** As we are meeting in the context of the Saas-Fee Summer Institute of Art (SFSIA) which, as an artist and curator, you founded and have directed for the last four summers under the theme of ‘cognitive capitalism,’ I thought it would be interesting to start with the question: How would you define cognitive capitalism?

**WARREN S. NEIDICH:** First of all, thank you for teaching this summer at SFSIA. I might start by mentioning that there’s already an excellent book on the subject by Yann Moulier-Boutang in which he lays the groundwork for understanding this term, and also, like yourself, Yann is a regularly returning faculty at SFSIA.<sup>1</sup> In *Cognitive Capitalism*, Moulier-Boutang places the beginning of cognitive capitalism at around 1975 at a moment of profound crisis in the economy caused by the beginning of the cybernetic revolution. New technologies converged with social, political and cultural conditions to create new forms of accumulation and positive and negative externalities. Together these placed new pressures upon dead and living labor. A new form of non-linear, distributed machinic intelligence began to predominate and reconfigured the workplace and the workers’ role. Participatory workers were released from the assembly line and found themselves in front of a computer screen with access to a universe of knowledge at their fingertips.

<sup>1</sup> Saas-Fee Summer Institute of Art 2019 will focus upon *states of consciousness* and consider what effects new technological transformations might have on human consciousness and its various social and cultural expressions and permutations. Yann Moulier-Boutang will be a faculty member of the New York City program hosted by Performance Space New York, June 1–15, and Hans Ulrich Obrist will be a faculty member of the Berlin program hosted by Spike Berlin, July 4–23.



Building on the earlier work of Romano Alquati, Raniero Panzieri, Mario Tronti and Tony Negri, a group of Italian political philosophers (Maurizio Lazzarato, Franco "Bifo" Berardi, Christian Marazzi, Silvia Federici, and many others) began publishing in the journal *Classe Operaia*. They were early in predicting the effect on society brought about by these newly evolving forms of work. They understood the cybernetic future way ahead of anybody else and they realised that the new information age would change the way that people worked and lived, and they called this "cognitive capitalism." Performance and immaterial labor became the predominant forms of labor in what would become known as "early cognitive capitalism." Emotions, affects and feelings, once outside the scope and concern of capitalism, formed cognitive capitalism's central core, and now were able to be capitalized. Immaterial labor became essential components of subject and subjectivity.

At that time, cognitive capitalism consisted of five or six components, and if you went to any of the biennials last year it was almost like every artist was taking a different theme from the annals of early cognitive capitalism, illustrating it in their own specific way. Ideas such as precarity, valorization, the financialization of capital, immaterial labor, communicative capitalism and real subsumption formed the conceptual frameworks they emphasized.

HUO: Some people may not be familiar with these terms. Could you briefly describe them?

WSN: Sure. The first element would be precarity. Labor became precarious and this began to pose a threat to stability of income and lifestyle. So "precarity" is a word that you hear all the time. Life has become unstable. In former times, in the days of our parents, there was the idea that a stable work environment and a secure job occurred within the time frame of set hours. One was a "company man" or "company woman." In today's flexible economy, one is now a freelancer or free agent, especially in 'creative culture' where everyone is an artist of one kind or another, and working from home is becoming increasingly normal.

Precarity also suggests that everybody is teleworking alone and isolated from direct contact with others. Instead they are working and waiting by their computers, or iPhones, awaiting the next tweet, Facebook post, or email informing them of their next job opportunity. Which, by the way, might mean "prosuming" with other designers online, chatting with other members of a think tank, or even searching data, which creates data that is later bought and sold. As a consequence there's this kind of edginess, an unease, that we experience as we are linked by our iPhones as nodes in an immense communicative network which is also creating a lot of anxiety. This is the idea of precarity.

HUO: Precarity also means the end of all safety nets in a way – so people are worried.

WSN: Yes, people are worried and in a state of unease that permeates society as a whole. Also, there's another definition of precarity that concerns a kind of struggle taking place in consciousness itself. That 'real' memory, the directly experienced memory of objects and activities performed in the material world, is being subsumed by virtual memory. In other words, the memories that we are engaged with in the virtuality of the simulacrum, as Baudrillard put it back in the 1980s, where the simulated world becomes the dominant context within which we experience the world and digital objects and relations from that world outcompete their real world counterparts for the synaptic spaces that constitute the neural architecture of the connectome, the elaborate matrix of neural connections of the brain. These simulated images are mechanically engineered images of attention, what Paul Virilio called 'phatic images', in other words more emphatic images. Accordingly, borrowing from the ideas of Gerald Edelman and Jean-Pierre Changeux, they act as powerful neural-plastic modulators and they outcompete so-called 'real world' relations. If, in fact, we can even consider anything real, for the brain's neural space.

We're spending more and more of our waking time on the internet and, as a result, a greater and greater proportion of our conscious time is

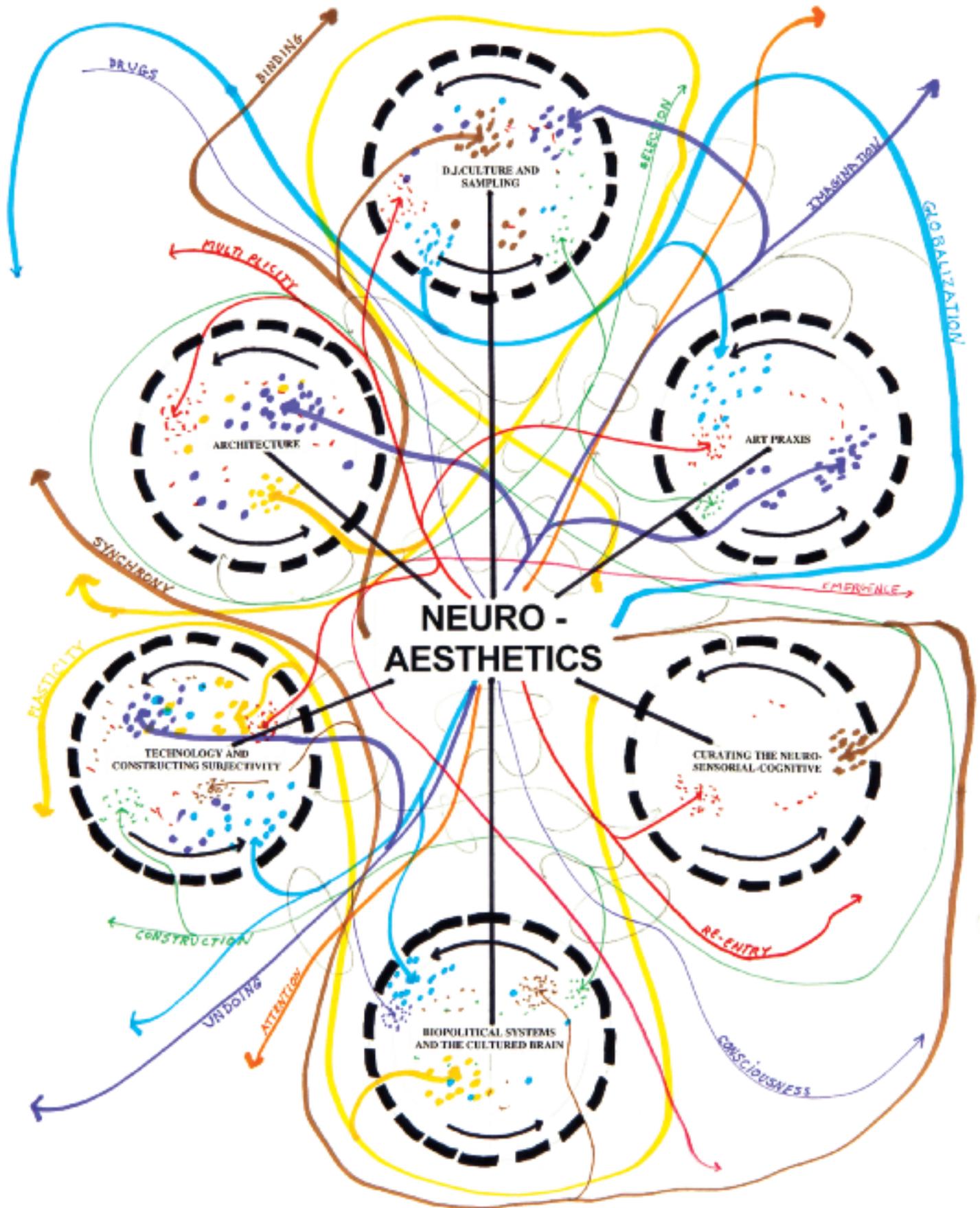


being spent interacting with the constructed and engineered sensory data of the net. Now the images and sensations we experience are modified further by software agents creating image bubbles based on our past searches which, as a result, seem closer and more familiar. These images capture our attention more intensely. Attention has been shown to be very important for the production of memories. As a consequence our memories, the images we remember, are a kind of combination now. They're a collage of both 'real' and 'virtual' memories and, to a certain extent, the virtual memories are more powerful. This is what I wrote in my book *Blow Up: Photography, Cinema and the Brain* back in 2003. I understood the crisis of the main character Thomas, at the end of the movie *Blow Up*, as a confusion occurring between these two forms of memory reconstituted in the mind's eye (or working memory) and what Gilles Deleuze called the image of thought. As I explained, Thomas' memory was precarious in that he could no longer determine the location and source of the memories he retrieved. He could no longer tell which memories were from the archive of his own photographic practice, especially those from the pictures he made of an affair between two lovers in a park which he enlarges (blows up) in the dark room and those generated from his own memories from his personal experiences and relations with the real and natural world, so-called 'real' memories. The fictive tennis match he plays and performs at the end of the movie represents a crisis of precarious memory and, as such, a form of induced schizophrenia. That is what creates the crisis of precarity.

The second aspect of cognitive capitalism is referred to as "24/7" and, of course, Jonathan Crary's book *24/7* is a great resource for further reading. Whereas previously we had a workplace we went to everyday from 9 to 5 (whether it was a bureau or a factory) and then we would go home and enjoy our leisure time, today everything is work. We never stop working. As opposed to the previous model, which Marx called "formal subsumption," this he called "real subsumption." Everything that we do now is work.

We go to a party and check our emails and see a friend's Facebook post and we 'like' it or we don't, and we post an image of the party on Instagram. We are constantly working. Our Facebook likes and Instagram posts are data that become part of the "big data" network, and this data helps to produce a singular data profile that is then used by corporations to invite us to like and dislike certain of their products. We are constantly working and we are working for free. We have made a Faustian pact, a kind of agreement with these companies – with Facebook, which gives us a lot of joy and pleasure, or Google, which makes us smarter because it gives us access to a shared, cooperative encyclopedia of knowledge at our fingertips. We have made that contract and so 24/7 is the second component of cognitive capitalism. In my upcoming book, *The Glossary of Cognitive Activism*, I have coined the term 'neuro-subsumption' and stress that in the future, as our brains are hooked up to the internet, there is a possibility that even our unconscious, and non-conscious (or implicit neural activity), will be monitored and coded. This will mean that every one of our thoughts will be transformed into data and end up circulating in the cloud.

The third component of cognitive capitalism is what is called the 'valorisation economy,' which is related both to precarity and these other things that we have been talking about because the valorisation economy substitutes valorisation for value. Value is still around, but it is subsumed. Through interventions in the social mind by advertising, public relations, rumor and fake news, a commodity gains added value. Corporations (and governments) are no longer selling the object – the car, or the material. They are selling the experience of the car. Imagine a commercial in which two beautiful people are driving down Highway 1 along the Pacific Coast of California, wind blowing in the woman's hair. This incredible experience is communicated to the viewer like a movie. That's all part of valorisation. A Nike shoe, which costs \$17 to make in the Philippines, becomes £117 on the high street.



Neuroaesthetic Poster  
 (Brain/Culture, Cultured  
 Brain Symposium)  
 Goldsmiths College, 2005.

Following page, top: *Statisticon Neon*,  
 Color of Politics, Kunstverein am Rosa-  
 Luxemburg-Platz, L 40, Berlin, Germany,  
 2017. Bottom: *Statisticon Drawing*, 2016.

This increase in value is added by its capacity to be valorized by the social hive mind – the importance of having celebrity basketball players wearing the shoe is an essential component of this story. This is the key to cognitive capitalism. The production of the object, of this shoe for instance, doesn't end when it comes off the assembly line, but is constituted in the social mind and in the neural networks of the brain. This is the new form of work, or mental labor, in cognitive capitalism. The work is unpaid, but actually generates added value for the corporation selling the object. It is important to note that when I talk about the 'brain,' I'm not only talking about the thing inside your skull. I'm talking about the situated body as well, and I'm talking about everything in our world that we interact with. Neural plasticity and cultural plasticity are substantiated and evolve together. The sociological and semiotic conditions of the cultural milieu are all extended and externalized capacities of the brain, and one can say that if these capacities were intracranial instead of extracranial we would call them cognitive.

HUO: How does cognitive capitalism enter your artwork? How does it enter the practice of art in general? I was looking at your book, *The Color of Politics*, yesterday and it's a kind of A-to-Z, an alphabet of your different neon works which connect internet phenomena and society. Some of them are platforms, like 4chan, while others are names of people, or protagonists, like Barack Obama. Others are basically neologisms. Can you talk a little bit about this?

WSN: To answer, I would like to continue this discussion about cognitive capitalism because my artwork is the contribution I have made to understanding it. First of all, I don't consider writing, organizing and theorizing as separate from my art practice. As Deleuze stated, artworks create new sensations and my artwork takes its point of departure from that seminal idea. I understand my work in the context of what I refer to as a 'wet' conceptualism, as opposed to a 'dry' conceptualism. In 'dry' conceptual practices, such as the early work of Joseph

Kosuth, the immaterial works of Robert Barry, or the works of Sol Lewitt, beauty is drained from the work of art in order to make it as purely disinterested and as cognitive as possible – to remove its capacity for emotion that played such an important role in Kant's analysis of beauty in his "Critique of Aesthetic Judgement." According to the 'dry' conceptualist position, beauty and emotion muddle the interpretation and experience of the concept of the work. Sol Lewitt famously stated that the idea is the most important aspect of the work, that all planning and decisions should be made beforehand, and execution is a perfunctory affair.

In 'wet' conceptualism, beauty is not considered a hindrance to the reception of the work of art as a theoretically-driven conceptual and cognitive construct. It is a door through which the visitor can enter the work. In fact, it accentuates it. All decisions are not made beforehand and production is an important part of the process of creation, including decisions made mid-stream. However, 'wet' conceptualism is also not concerned with essences or universality, but rather its singular capacity to be understood and appreciated by the multitude. However, 'wet' conceptualism is pertinent to our times in relation to cognitive capitalism because instead of being directed to the senses and perceptions, it is directed to the organic, living apparatuses of the neural-plastic brain. It has the capacity to transform and emancipate the cognitariat's thought processes in the mind's eye. In late-stage cognitive capitalism, 'wet' conceptual art produces changes in the intracranial and extracranial brain – redefinition put to work.

HUO: How so? Is this what you have meant by "activist neuroaesthetics"?

WSN: In 1996, I co-founded (with Nathalie Angles) the website [www.artbrain.org](http://www.artbrain.org) and the *The Journal of Neuroaesthetics* in which I put forth the notion of an activist neuroaesthetics. Rather than a positivist, or empirical, neural aesthetics promoted by neuroscience which attempts to subsume artistic processes of creativity and exploration and substitute it with a scientific one,



the activist understands that art has the capacity to deterritorialize neuroscience and challenges its authority as the only proper research methodology pertaining to the distribution of the sensible. It understands positivist neuroaesthetics as a tool of imperial neoliberal global capitalism in creating the perfect cognitive global consumer, or the perfect cognitariat, whose neural architecture is optimally molded for the quick and attuned work of the net. Artists, on the other hand, do the opposite by looking for opportunities to undermine this optimization, as well as by creating other neural logics that aspire to alternative forms of consciousness. Artistic labor is now concerned with mutating the conditions of the cultural habitus, or the extracranial brain, with concomitant effects upon the material intracranial brain. Finally, activist neuroaesthetics assumes that if we have the will and foresight, this could become a political call to arms. It suggests the possibility that brain sculpting might be an important tool for social and political transformation.

HUO: How does this relate to your teaching? Is it all part of one practice?

WSN: My work as an artist is not just about making art. Obviously it's also about pedagogy and it's also about writing. It's surprising how many people don't know about cognitive capitalism and so, in a way, one of my roles is as consciousness-raiser. In 2005, I started coming across the writings of Franco "Bifo" Berardi, Christian Marazzi, Maurizio Lazzarato and Toni Negri – authors concerned what was called "post-workerism" (which followed workerism in Italian literature). I realized that it could become a powerful instrument in understanding what I was trying to talk about in neuroaesthetics. I started getting involved in this discussion first by inviting Maurizio Lazzarato, Yann Moulier-Boutang and Paolo Virno to my conference at the Delft School of Design, "Trans-thinking the City," followed by the book I co-authored with Deborah Hauptmann, *Cognitive Architecture: From Biopolitics to Noo-politics*. At that time, I was doing a doctoral program in Architectural Theory with Dr. Arie Graafland.

I collapsed the idea of multi- and interdisciplinarity into the idea of trans-thinking, in which 'inter' and 'multi' became frames of mind and thought. These practices were interiorized as apparatuses emancipating forms of thinking. In other words, they had actually become part of the implementation of the way that we think. I realized that many of these authors were referring to the brain and cognition in a very general and metaphorical way. There was a specificity missing that I thought I could contribute as a way of broadening my own theoretical and discursive base which had begun in the book *Blow-up: Photography, Cinema and the Brain* as well as modestly rendering their arguments even more important. They didn't have a certain kind of knowledge that I had about neuroscience. Importantly, my knowledge was not akin to positivist and reductionist thinkers, but more attuned to the work of Francisco Varela which was anti-reductionist and emphasized the power of emergence. That is how my interest in bringing these themes together arose and led to the three volume work, *The Psychopathologies of Cognitive Capitalism*, and the [soon-to-be-released] *Glossary of Cognitive Activism (For a Not so Distant Future)*. *The Color of Politics* contains an early rendition of the glossary linked to the words used to make the sculpture and is in fact the catalogue for the exhibition I made at the Kunstverein am Rosa-Luxemburg-Platz. It is a model for understanding the political crisis we are all involved in, and tries to define what that is and possibly offer some solutions.

HUO: I remember seeing pictures of your neon sculpture "The Statisticon Neon" that you made in Berlin. Could you explain this further?

WSN: *The Color of Politics* describes two works in neon that I presented at the Kunstverein am Rosa-Luxemburg-Platz. Downstairs in the lobby was the "Statisticon Neon", and upstairs were three works that together connected the political conditions of McCarthyism to our moment of right wing populism today. "The Statisticon Neon" was in many ways a homage to Joseph Beuys' work, "Das Kapital Raum 1970-1977", which was originally shown



*Pizzagate: From Rumor to Delusion, 2018, Video Stills.*

in the German Pavilion in Venice in 1980, and today is on loan to Berlin's Neue Nationalgalerie, the collection of which is partly on view at the Hamburger Bahnhof. I displayed my work on a collection of blackboards which echoed Beuys' installation at the museum, where they are filled with handwritten cursive notes about art and capital. At the time of this work, the immanence of the information economy was so real as to be a source of inspiration for Beuys despite the fact that there was no public internet, social media platforms or big data. I superimposed my neon sculpture – which commented on many of the issues he was interested in, but did not live to see – over those blackboards, much like a technicolor film in contrast to Beuys' work in black and white. Key to the work was the central position of the term "Statisticon" which refers to the future condition of extreme data in which the brain and mind are directly linked to, and controlled by, the Internet of Everything. As such, it points to the future of a surveillance economy.

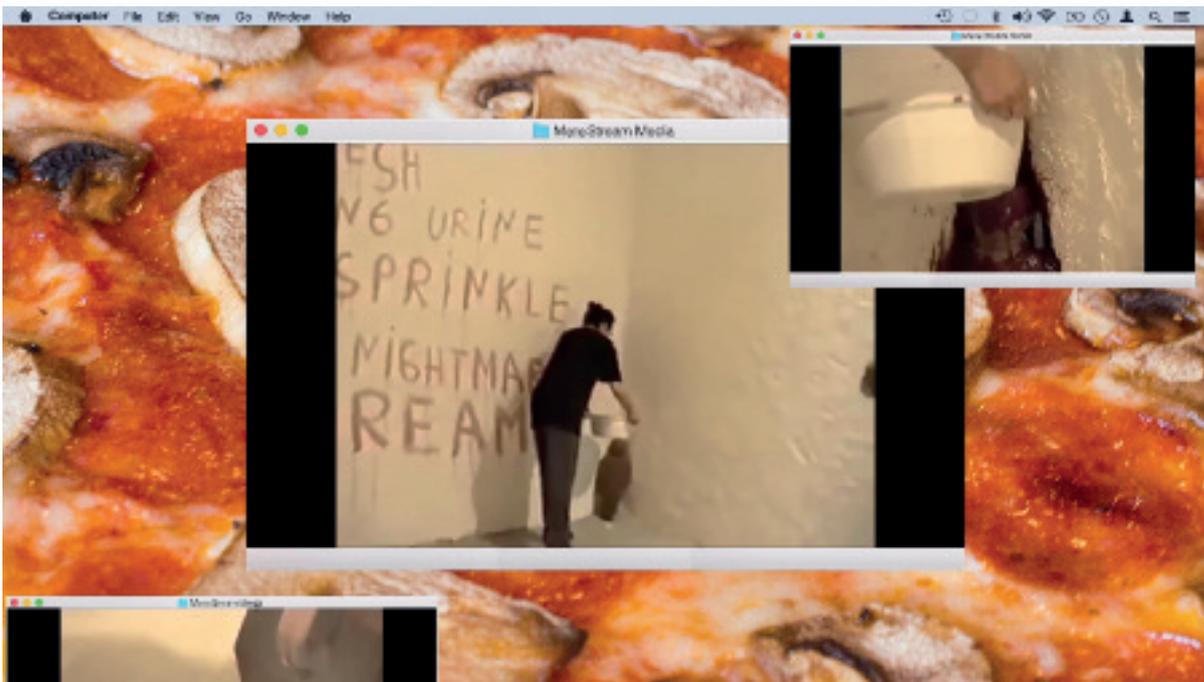
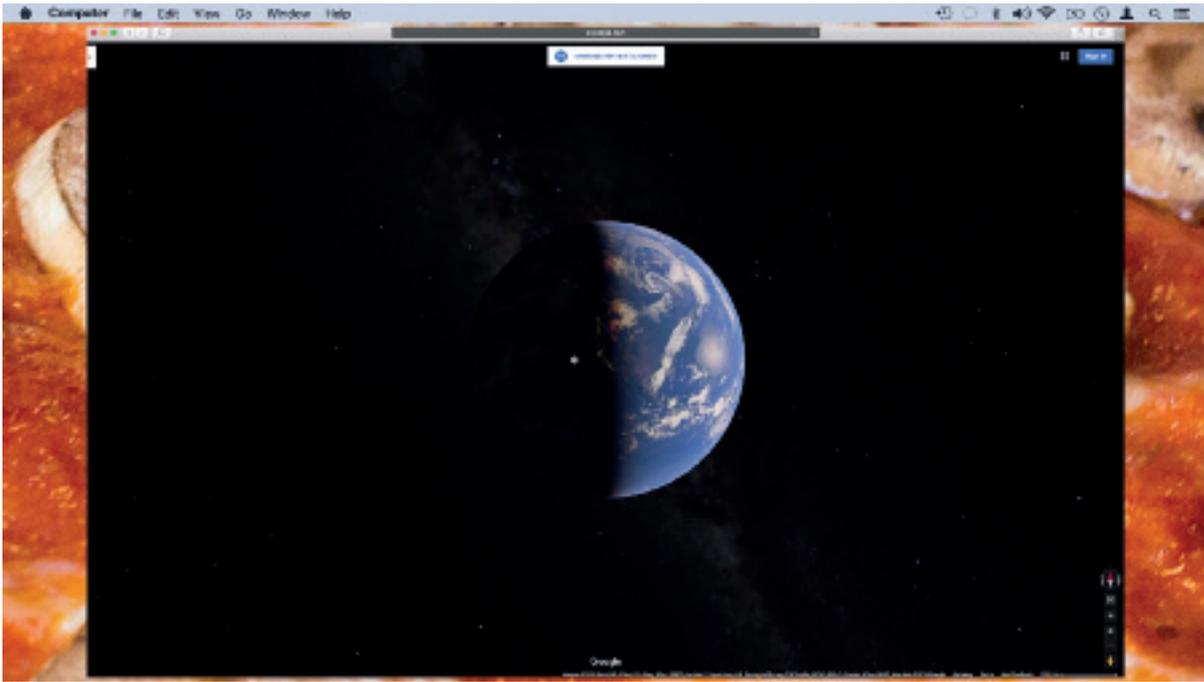
The upper galleries showed how post-truth society and fake news (characterised by the conspiracy theory known as Pizzagate) were linked to McCarthyism. I had already begun to work on this question in Los Angeles in "Book Exchange: The Hollywood Blacklist" exhibited at the Printed Matter L.A. Book Fair in 2015, and, later, in my exhibition, *The Palinopsic Field* at LACE in 2016. Crucial to this story were my two works, "The Archive of False Accusations", and "Double Jeopardy: The Afterimage Paintings". In the "Archive of False Accusations", press clippings reporting on what was known as the "Lavender Scare" were presented in four lavender neon-lit plexiglass vitrines. One of those vitrines exhibited press clippings relating to Donald Trump and Roy Cohn, an American lawyer best known for his role as chief council to Joseph McCarthy, who was also a mentor to Donald Trump. This vitrine plays an important role in relation to the second work, "Double Jeopardy: The Afterimage Paintings", which consists of three neon sculptures which spell out the names of the German emigrants Bertolt Brecht, Hanns Eisler and Lion Feuchtwanger, all

of whom were later blacklisted in Hollywood as communists and, as such, were never granted a star on Hollywood Boulevard. The names were interspersed with four realistic paintings of stars on the Hollywood Walk of Fame. The paintings are empty stars except for the logo, signifying the different star categories such as live theater, motion pictures, radio or television. Spectators stare at the blinking red neon for 10 seconds, after which time they redirect their gaze to stare at the center of the star in the painting where the afterimage of the artist's name appears. Thus, each participant rewrites the past and rectifies the injustices done to these artists by projecting their names, if only for seconds, on the adjacent star painting. Their actions modify history as it is known, and point to the power of the people to alter a mutable and becoming history.

HUO: How does Pizzagate fit in? Comet Ping Pong is a pizza parlour owned by James Alefantis, the former boyfriend of David Brock, and was basically the venue for this alleged conspiracy, but can you elaborate on your interest?

WSN: Pizzagate is a now debunked, one might even say preposterous, conspiracy theory that went viral towards the end of the 2016 presidential election. It was an event – a fictitious event, one might even say a rumor – disseminated on newsfeeds, chat threads and message boards including 4chan and Reddit, as well as Twitter. The theory proposed that Hillary Clinton and the people in her campaign were operating an international sex-trafficking ring out of the Comet Ping Pong pizza parlour in Washington D.C. The so-called proof of which resulted from the hacking of Hillary Clinton's campaign manager's (John Podesta) personal emails.

HUO: Which is no different than what Edgar Morin already understood some years back. Edgar Morin, now in his nineties, is a French philosopher acquaintance of mine who wrote *La Rumeur d'Orléans*, concerning the rumor that in a women's wear shop in Orleans the customers would actually disappear.



*Pizzagate: From Rumor to Delusion, 2018, Video Stills.*

They would go to the shop, try on a dress in the fitting room, and then disappear never to be seen again. This was actually a right-wing anti-semitic rumor in Orleans at the time targeted at the owners of this shop. As a consequence, their business was completely destroyed. It's the precursor to Pizzagate.

WSN: Yes, propaganda and fake news have been around some time, but the Internet is provoking a much stronger reaction – and the rumor is related to the emergence of bottom-up, socially constructed truths.

HUO: Very sadly, with the current rise of antisemitism in France, it's again also of great relevance in that regard, as Umberto Eco pointed out to me in my last conversation with him, but it's interesting, in a way, that the *Rumor of Orleans* and Pizzagate are connected.

WSN: You are right. Rumor has taken on greater importance in cognitive capitalism and is related to what is referred to as valorisation and valorized economies. We live in this valorised world, and it's very important. Truth is more about a story or a narrative that what constitutes an arrangement of objects, things and the networks they create. Truth becomes an attribute of how viral the story is and how much attention it can attract. Truth is conditional on the distribution of data in the cloud. The "Pizzagate" sculpture is an attempt to talk about the network relations that are important in the production of these fake news stories.

Fake news is related to propaganda but in many ways it is different. Propaganda is a top-down phenomenon in which a sovereign agent constructs stories to engage the populace in a particular believable way with the aim to change their actions. Fake news is a bottom-up phenomenon which is the result of a welling up of stories concocted on real and fake social media pages which have begun to be believed. Their sheer massive distribution, as well as their emergent qualities, make them powerful modulators of public opinion.

They colonize the attention of the populace by providing engaging content. The attention economy, and its economic capacity, is directly related to how many eyeballs it can induce to look at its content. The "Pizzagate Neon" takes this argument one step further as it talks about the power of these fake news stories to sculpt the neural plasticity of the brain through a neural-synaptic process. In the attention economy, where because in this surfeit of images and information that we're exposed to it's impossible to pay attention to everything, attention itself becomes a commodity. It becomes important for corporations and advertisers to capture our attention through various strategies like sensationalism, special graphics and editing techniques that make the information they want to convey more salient. "Clickbait", which appears in the sculpture, is analogous to baiting a hook to catch a fish. You make the bait as attractive as you possibly can. Clickbait is similar, but it turns out that fake news is a much more powerful attractor and stimulator of attention than real news to instigate cognitariat clicking. Clickbait is also a powerful sculptor of memory. In her essay, "Attention, Economy and the Brain", Tiziana Terranova speaks directly to this question, highlighting the impact of Internet usage on the cognitive architecture of a neuroplastic and mimetic social brain. My point is that all these different alt-right memes, different kinds of platforms, Kek, all of these different mechanisms of the new far right are the new apparatuses at play engaged in the attention economy and are actually changing the neural plasticity of the brain and forming new kinds of memories. That's what this sculpture is about.

HUO: Of course, the actual story of Pizzagate is also part in the work. Edgar Welch, for example, entered the pizzeria with a gun believing the truth of that rumor. He, as well as the other protagonists, make an appearance in the work along with the internet wide phenomena, but also the art world enters the story. I was interested in seeing Louise Bourgeois' name. I didn't remember the connection between Louise Bourgeois and Pizzagate. Can you elaborate?



Fragment 1, 2019, Rumor to Delusion, Zuecca Project Space, Venice Biennial, 2019.









*Scoring the Tweets*, Priska  
Pasquer Gallery, 2018.

WSN: Thank you for bringing this up because one of the most important aspects of the sculpture and video I made called “Pizzagate: From Rumor to Delusion” is the story of how various artists and their work became of interest to the alt-right as examples to back up their fake news story, as well as, to impress on their base the lascivious nature of the Democratic candidates – as if the artworks were a valid reason for scorn. This story involved the art collection of Tony Podesta, the brother of John and a friend of James Alefantis, the guy who owns Comet Ping Pong. The work that he has in his collection is very sexually explicit, very edgy, and some of the work owned by Tony Podesta was hanging in Comet Ping Pong, especially the work of Arrington de Dionyso. John Podesta, as you know, was the campaign manager for Hillary Clinton, so when they hacked John Podesta’s emails, and when this whole phenomenon of the Pizzagate rumor started, the reporters went to Comet Ping Pong where they coincidentally came upon what appeared to them as “weird” art – so here [in Bourgeois’ work] we have this story of childhood molestation and this very sexually explicit ‘weird’ art on the walls. This confluence created a story that went viral, and, all of a sudden, this rumor starts becoming “true” and believed. What also happened is that on alt-right news feeds there were all these stories about Tony Podesta and his weird art collection, and then, of course, the Marina Abramovic part of the story emerges out of this context. “Spirit Cooking”, a performance at Marina’s loft in New York City to thank her donors, mutated into a story concerning witchcraft. Of course, witchcraft is part of a larger feminist discourse and it is quite normal in the art world to discuss and represent such a story, but to the alt-right base it is blasphemy.

HUO: You must absolutely talk to Edgar Morin because *Rumor of Orleans*, a book from the early 70s, is uncanny in the similarities.

WSN: Thank you for letting me know. I will certainly get a copy.

HUO: So, what’s next? What’s happening in the studio right now?

WSN: Well, in the studio right now is a work about neurotic AI and I’m continuing my work from 2004 on the phantom limb syndrome. First, I’m creating phantom limb boxes that are based on devices that help to cure phantom limb pain. Sometimes, for example, when people have their arm amputated they develop pain, and there’s a kind of box called “the phantom limb box”, invented by the famous neuroscientist V.S. Ramachandran which is a mirror box that helps cure it. What I’ve been making are Donald Judd-type minimalist sculptures that stand in as phantom limb boxes. In the gallery, I bring in amputees who actually have phantom limb pain and use the artwork to cure them. That’s one thing that I’ve been working on. It’s all about the eternal return.

HUO: That’s a more Nietzschean trope.

WSN: Yes, but at the same time I’m doing a lot of work on artificial neural networks, and it’s very complicated as to why I’m doing that. I’ve been going to old neon stores and it turns out they have been changing all of their signs from neon to LED. One kind of technology is being supplanted by another, a kind of extinction of neon. Neon is being extinguished, so I’ve been going in and collecting these old neons and making artworks based on artificial neural networks. The found neon in each piece is creating what I call the “poetic artificial neural network”, so it’s not about optimization, it’s about thinking about a future AI, and trying to think of ways that this AI could be based on the poetic. Artificial neural networks are structured in specific ways. You have the input and you have the output, but you also have what is called the “intermediary zone” and the intermediary zone was originally based on the structure of the retina. Basically, early neural networks and artificial neural networks are based on real neurological and neurophysiological structures. They used the retina of the eye, for vision, as one of the early structures to simulate. In the retina you have the rods and the cones, which take in the light and transform the light into energy, and then you have a series



*Scoring the Tweets*, Priska  
Pasquer Gallery, 2018.

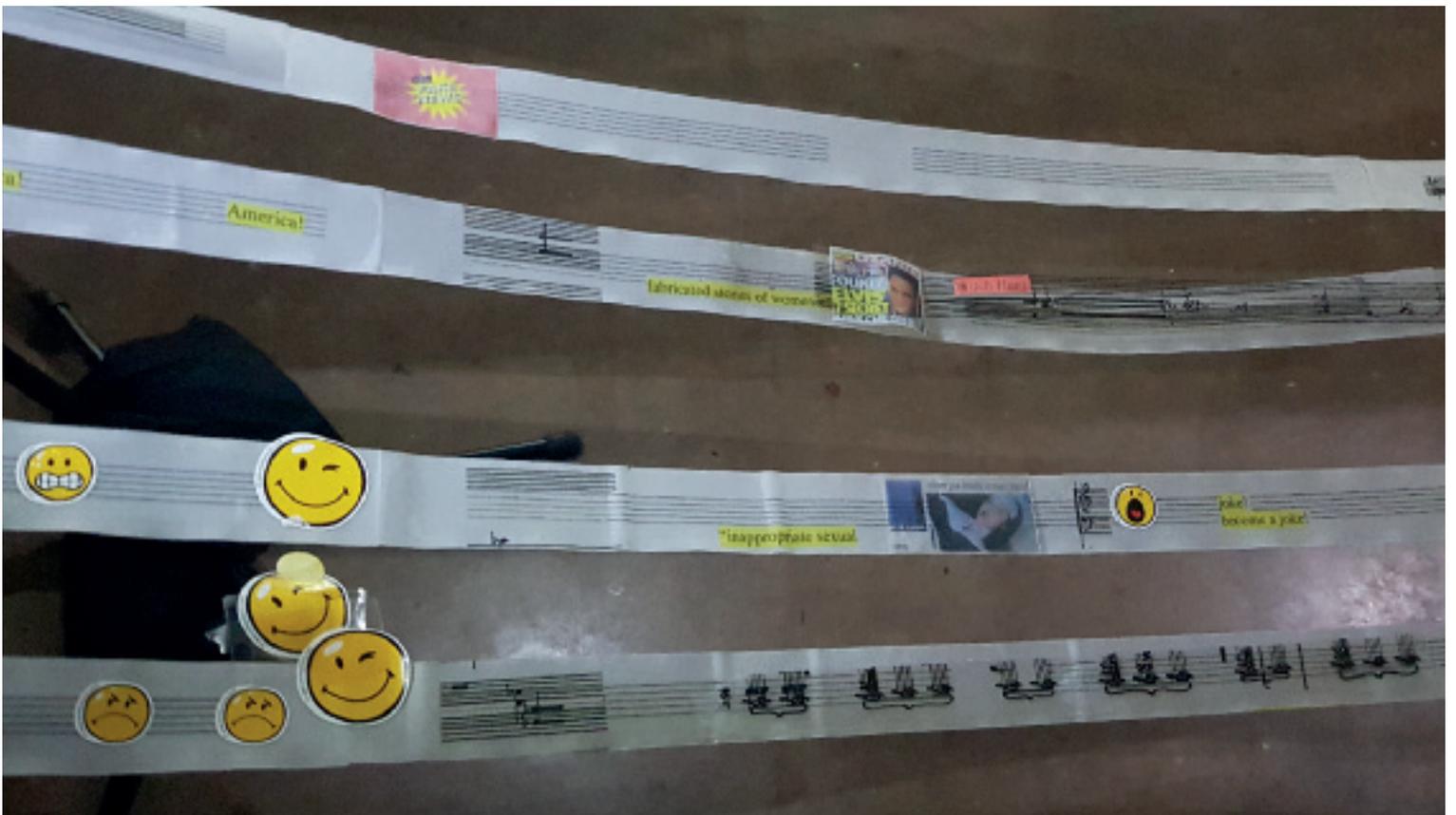
of intermediary zones which are bipolar cells and amacrine cells and horizontal cells, and then finally you have the output to the brain through the ganglion cells. Those three layers are the layers of neural networks, and when you have more than one layer in the intermediated zone changing this energy into a form that is information, then you have what is called Deep Mind. This provides the basis for these new assemblages that I have been making from found neons. All the neons contain a sausage, or, if you like, the smile of an emoji, and each is based on a version of the sexed body, and in this way they are a contemporary rendition of Marcel Duchamp's "The Large Glass." Importantly, the intermediary zone, in which the incoming information is being transformed into the output, is based on assemblages of different histories because the found neons used vary in age. Some are over 30-years-old, some are 20-years-old, some are 1-year-old. One was part of a sign for a sex shop and another was a sign for a food store, yet another came from an art project that an artist never picked up, so there are all these different kinds of stories that each one of the neons embodies that are contained in the neural network. Together they become a kind of poetic information system.

One of the other things that I am working on is a lecture called "2050: For What Will We Use Our Brains?" In this lecture I intend to map the effects of contemporary technology on the brain. Like the revolution that described the last half of the previous century, we too are faced with a technological acceleration which is putting pressure on what subjectivity can be. I am speaking about the neural-based economy which maps out the late stage of cognitive capitalism. First, the material brain, its structure and function, has become the model or template for the production of the new technologies we have already mentioned like pattern recognition, AI, artificial neural networks, brain computer interfaces and cortical implants. Secondly, the impetus for these new technologies is to outsource the functions of the intracranial brain to an assemblage of externalized apparatuses that constitute an extracranial

brain which has the ability to substitute for and surpass the human laborer. We already use GPS to find our way and recent research from Veronique Bohbot at McGill University, has suggested that constant use in older people may have damaging effects to the hippocampus. Just on the horizon are forms of artificial intelligence that will replace doctors, lawyers and accountants. The things that the human brain used to do, technology and machine-to-machine learning will do on our behalf and will do more effectively. The question is, what will we use our brains for? I've constructed a theory based on "the neuronal recycling hypothesis" of Stanislas Dehaene, who works in the Pasteur Institute in Paris. It posits that cultural inventions evolutionarily invade older brain circuits. In this case, it argues that the inferior temporal area of the temporal lobe of macaques share attributes with the human visual word-forming area, and that the invention of writing (after it became widely used), colonized that area of the brain and transformed it into its new use. I am arguing that the widespread use of telepathic technology will also put pressure on areas of the brain that maintain prerequisite structures that can be easily modified. At first, it will be technologically enhanced, but gradually it will become naturalized.

HUO: Research into mental images gets us pretty close to telepathy. I mean, if I can think of an image then we don't need to go through a photograph anymore – you actually see that image, we have a telepathic relationship, a telepathic connection.

WSN: Right, but there are two important elements. At first, brain-computer interfaces required the electrode to be implanted in the brain which facilitated, after training, a paralyzed person's ability to use his or her brainwaves to move a cursor on a computer screen, to control a robotic arm for feeding, or to control the movement of a wheelchair. Then, the technology advanced so that this type of control could be accomplished by projecting brain waves through a wireless Emotiv headset. Recently, the use of brain-computer interfaces has expanded.



Scoring the Tweets, Priska  
Pasquer Gallery, 2018.

Following pages: Scoring the  
Tweets, Totally Untrue, 2018.

For instance, Neurable's BCI headset for HTC Vive is being used for interfacing with virtual reality and playing competitive video games against another person wearing a similar device, as in the game *Brain Arena*, but it does not stop there. Linking up brain-computer interfaces to the Internet-of-things is already being experimented with such as with the brain-computer interface-based Smart Living Environmental Auto-Adjustment Control System. Gradually, if we believe Moore's Law that computer processing capacity doubles exponentially each year, then we begin to understand that more and more of our technologies will become linked through brain-computer interfaces forming a system of integrated technologically enabled telepathic capacities. Just as we saw for writing, gradually there will occur a form of accumulation that I speculate could have neuromodulating capacity.

Returning to the neuronal recycling hypothesis, Dehaene states that writing and reading are only 5000 years old, its formal beginnings started with the invention of Sumerian writing tablets. However, molecular geneticists arguing in another context hypothesize that the changes necessary for the establishment of a reading module in the brain would take one million years. Placing a patient, or volunteer, inside of an MRI machine and having them read or write can provoke an area called the fusiform gyrus, so Dehaene asks: *how is it possible that in 5000 years a material change in the brain such as this could take place?* His response is his neuronal recycling hypothesis. Novel capacities like reading and writing may be acquired as long as they can find a suitable area in the brain to accommodate it, perhaps maybe even colonize it. The novel cultural function must locate an area whose function is similar and plastic enough to accommodate it. What I would like to suggest is that there must be suitable pressure provoked by an accumulation of cultural artifacts operating in the cultural milieu to select out from the population individuals who have a predisposition to reading signs. In any population there are a variety of individuals who have unusual capabilities. Some men and women have greater capacity to hit a tennis ball, for example. There is also an

inherent variability in the processing of symbolic information in the area of the occipito-temporal gyrus or fusiform gyrus inherited from our simian forefathers. He argues that the area used by macaques, a type of monkey, to understand another primate's facial expressions is appropriated in humans for reading and, if you compare the brain scans of people reading to the facial recognition area in primates, the areas that light up are indeed located very close to each other. What I am hypothesizing is that in the future, as telepathic technologies become more and more prevalent, there will come a time when their accumulated presence induces changes in the brain. Those changes may be gradual and linked to comparable changes in the cultural milieu induced by imbedded technologies in the built environment or in virtual reality. As the brain is both intracranial matter as well as outsourced, extracranial tools and devices, the process will be a co-evolutionary one. Like with reading and writing, there will come a tipping point in which telepathy will colonize an area of the brain with the right number of innate capacities and induce it to record and process telepathic information without technological software and hardware – or just transform it, as we may already have telepathic capacity, as you said. These telepathic capacities will be engaged with and be made more powerful.

HUO: Which, of course, will make Rupert Sheldrake more relevant again.

WSN: {laughs} That would be something.





A	CORTICAL REMAPPING	HEBBIANISM (FORMERLY	NEUROECONOMICS
ACCELERATIONISM	COSMOPOLITANISM	HEBBINISM)	NEUROFEMINISM
ACCUMULATION	CREATIVITY	HEBB'S POSTULATE	NEUROMARKETING
AFFECT	CULTURAL	HETERODOX CULTURAL	NEURON
AFFECTIVE LABOR	CULTURAL ATTENTION	SYNCHRONIZATION	NEURONAL RECYCLING
AFFORDANCE THEORY	CULTURAL CAPITAL	& ORTHODOX CULTURAL	HYPOTHESIS
AFROFUTURISM	CULTURAL EVOLUTION	SYNCHRONIZATION	NEUROTYPICAL
AGENCY	CULTURAL MEMORY	HETEROTOPIAS	NODES
ALGORITHM(S)	CYBORG	HISTORICAL AND DIALECTIC	NOISE (MUSIC)
ALIENATION		MATERIALISM	
ALT-COGNITIVE ERGONOMICS	D	HYSTERICAL SUBLIME	O
ALT-RIGHT	DATA MINING		OCCUPY MOVEMENT (OCCUPY
ALT-VISUAL ERGONOMICS	DATAISM	I	WALL STREET (OWS)
ANARCHY	DEBT	IMMATERIAL LABOR	ONE-DIMENSIONAL MAN,
ANTHROPOCENE	DECOLONIZING THE MIND	IMPROVISATION	ONE-DIMENSIONAL
APPARATUS	DEEP HISTORY OR DEEP TIME	INFORMATION ECONOMY	WOMAN.
APOPTOSIS	DEEP LEARNING	INFOTAINMENT	OPAQUE ALIENATION
ARCHIVE		INSTAGRAM	OPTOGENETICS
ARTIFICIAL GENERAL	DEFAULT NETWORK STATE	INSTITUTIONAL DEPRIVATION	ORIGINARY TECHNICITY
INTELLIGENCE	DEGENERACY	INTENSIVE	
ARTIFICIAL INTELLIGENCE (AI)	DENDRITES	INTERNALIZATION	P
ARTIFICIAL NEURAL	DÉRIVE OR DRIFT	INTERNET OF EVERYTHING	PANOPTICON
NETWORKS (ANN)	DÉTOURNEMENT	(IOE)	PEOPLE (A/THE)
ARTPOWER	DISCIPLINARY SOCIETY	INTERNET OF THINGS (IOT)	PEPE THE FROG
ATTENTION ECONOMY	DISSENSUS	INTERSECTIONALITY	PERCEPTION-ACTION CYCLE
AUTISM SPECTRUM	DISTRIBUTION OF THE		(PA CYCLE)
DISORDER	SENSIBLE/INSENSIBLE	J	PERCEPTRON
AUTONOMY	(DOSI)	JUNKSPACE	PHANTOM LIMB SYNDROME
AUTOPOIETIC SYSTEMS	DIVERGENT THINKING		PHATIC IMAGE
AYAHUASCA	DIVIDUAL	K	PHENOMENOLOGY
	DUENDE	KEK	PHI
B		L	PIZZAGATE
BASE AND SUPERSTRUCTURE	E	LATE COGNITIVE CAPITALISM	PLURIPOTENTIALITY
BACK PROPAGATION	EMBODIMENT AND	LIVE-WIRED BRAIN	POETRY
LEARNING (BPL)	EMBODIMENT THESIS	LONG-TERM POTENTIATION	POLITICAL ECONOMY
THE BALDWIN EFFECT	EMPIRE	(LTP)	POPULISM
BEREITSCHAFTSPOTENTIAL	ENVIRONMENTAL		POSITIVISM
OR READINESS	ENRICHMENT	M	POST-ANTHROPOCENE
POTENTIAL (RP)	EPIGENETICS	MACHINIC INTELLIGENCE	POST-FORDISM
BIG DATA	EPIGENETIC ARCHITECTURE	MASS INTELLECTUALITY	POSTHUMANISM
BINDING	EARLY COGNITIVE	MATERIAL ENGAGEMENT	POST-WORKERISM OR
BIOPOWER	CAPITALISM	THEORY	POST-OPERAISMO
BODY WITHOUT ORGANS	ERGONOMICS	MATERIALISM	PRECARITY
(BWO)	ESTRANGEMENT	MEMES	PRIMARY REPERTOIRE
BOT	EXTENDED MIND	MEMORY	
BOTTOM-UP PROCESSING	EXTENSIVE SPACE	MENTALITÉ	PROLETARIAT
BRAIN-COMPUTER-	EXTERIORIZATION	THE MIND'S EYE	PSYCHEDELIC DRUGS
INTERFACES (BCIS)	ENVIRONMENTAL	MIRROR-NEURON SYSTEM	PSYCHOGEOGRAPHY
	EXTERNALITIES (POSITIVE	MOORE'S LAW	PSYCHOPATHOLOGIES OF
BRAIN FINGERPRINTING	AND NEGATIVE)	MORPHOGENESIS	COGNITIVE CAPITALISM
BRAIN WITHOUT ORGANS		MULTITUDE	
(BRWO)	F	N	R
BRETTON WOODS SYSTEM	FACEBOOK	NATURE	RAP
	FAKE NEWS	NETWORK MODEL OF	REAL ABSTRACTION
C	FINANCIALIZATION	BRAIN FUNCTION	REAL SUBSUMPTION
CAPITAL	FLEXIBILITY	NETWORK MODEL	RECEPTIVE FIELDS
CAPITALIST REALISM	FLESH	OF LABOR	RECUPERATION
CENTRAL NERVOUS SYSTEM	FORMAL SUBSUMPTION	NEURAL ASSEMBLIES	REDISTRIBUTION OF THE
(CNS)	FORDISM	NEURAL CAPITALISM	SENSIBLE AND
CEREBRAL CORTEX	4CHAN (PRONOUNCED	NEURAL COMMONS	INSENSIBLE (RE-DOSI)
CEREBRALITY	"FOUR CHAN")	NEURAL CORRELATES OF	REENTRY
CIRCULATING CAPITAL	FRONTAL LOBE(S)	CONSCIOUSNESS (NCC)	REGIMES OF TRUTH
CLASS CONSCIOUSNESS		NEURAL DARWINISM	RETINA
CLICKBAIT	G	NEURAL DUST	RHIZOME
COGNIT	GANGLION CELLS	NEURAL ETHICS	RHYTHMANALYSIS
COGNITARIAT	GENDER	NEURAL MATERIALISM	RHYTHMS IN THE BRAIN
COGNITIVE ACTIVISM	GENDERED BRAIN	NEURAL PLASTICITY	
COGNITIVE CAPITALISM	GENE	NEUROPOWER	S
COGNITIVE MAPPING	GENERAL INTELLECT	NEURAL REGRESSION	SALIENCY
COLLAGE	GENERATION SNOWFLAKE	NEURAL TECHNOLOGIES	SECONDARY REPERTOIRE
COMMODITY FETISHISM	GESTALT	NEURAL SUBSUMPTION	SELF-ORGANIZATION
THE COMMONS	GLOBAL NETWORK	NEURAL VARIABILITY AND	SEXED BRAIN
COMMUNICATIVE	SOCIETIES	DIFFERENCE	SHAMAN
CAPITALISM	GOOGLE FILTER BUBBLE	NEURAL ZOE	SHAMANISM
COMPLEXITY	GOVERNMENTALITY	NEUROAESTHETIC MODEL	SINGULARITY OR TECHNO-
CONCEPTUAL ART	GRUNDRISSE	NEUROBIOLOGICAL	LOGICAL SINGULARITY
CONNECTIONISM		SUBLIME	SIMULTANEITY OF INPUTS
CONNECTOME	H	NEUROCENE	SOCIAL FACTORY (FACTORY
CORPUS CALLOSUM	HACKER (WHITE HAT)		WITHOUT WALLS)

SOCIETY OF CONTROL  
STATISTICON  
SUBALTERN  
SUBJECTIVIZATION  
SUPERINTELLIGENCE  
SURPLUS VALUE  
SYNAPSE  
SYNCHRONOUS  
CONVERGENCE  
SYNOPTICON

T  
TAYLORISM  
TEME  
TERATOMA  
THEORY OF MIND  
TRANSPARENT ALIENATION  
24/7 (TWENTYFOUR/SEVEN)  
TWITTER

U  
UMWELT  
UNDERCOMMONS

V  
VALORIZATION  
VARIATION  
VIRTUAL REALITY (VR)

W  
WORKERISM  
WORKING CLASS  
WORKING MEMORY

X  
XENOFEMINISM

Y  
YOLO  
YELLOW JOURNALISM  
OR YELLOW PRESS  
YELLOW VEST  
(GILET JAUNE)

Z  
ZEITGEIST



This glossary is meant to accompany the three-volume publication *The Psychopathologies of Cognitive Capitalism Part 1, 2 and 3*. It reflects the concerns contained in those volumes. It marks the beginning of a long-term process of creating a dictionary of terms with which to understand and eventually destabilize the complex ways through which a future Neural Capitalism will work in creating contemporary forms of neural subsumption.

Neural subsumption is a future condition brought about by an assemblage of networked neural technologies that will link our brainwaves to the Internet of Everything (IoE) and then encode them to use in advanced data analysis. No thought conscious or unconscious will be left unrecorded, encoded or surveyed. Furthermore this data will be used for a future form of data inscription upon the connectome: the data set describing the connection matrix of the nervous system and which represents the network of anatomical connections linking neural elements together. This in the end constitutes what I have called the Statisticon.

—Warren Neidich

American artist and theorist Warren Neidich will present his solo exhibition “Rumor to Delusion” at the Zuecca Project Space, to coincide with the opening of the 58th International Art Exhibition – La Biennale di Venezia, in Venice, Italy. In a series of works on view, Neidich captures the entangled and psychedelic tale of the *Pizzagate mythology* in our post-truth moment.

*Pizzagate* was the fake news story that was circulated at the end of the 2016 presidential campaign which accused Hillary Clinton and her staff of running a child sex slave ring out of the basement of the Comet Ping Pong pizza parlor in Washington D.C.

Many political scientists refer to our times as the post-truth moment because of the difficulty in discerning whether news stories reflect the truth or not. Neidich asks the question as to whether and to what degree sensationalized fictive news stories command our attention and collective behavior. Do they do so more intensely than factual ones? What role does art play in finding the answers?

These constitute the core issues at play in this exhibition dominated by the *Pizzagate Neon, 2017*, a monumental multicolored text-based neon sculpture suspended from the ceiling of the front chamber of the exhibition space. Its composition evokes both the iCloud and the connectome, a network-based model of the brain’s dynamic connection pattern.

The artist suggests that with the advent of artificial intelligence, big data and the attention economy, we have entered a later stage of the knowledge economy, in which the brain and mind represent the new sites of the administration of sovereign power. Neidich’s work is reminiscent of the text-based neon sculptures of Bruce Nauman and Mario Merz and pays homage to the politically inflected mind maps of Joseph Beuys and Mark Lombardi.

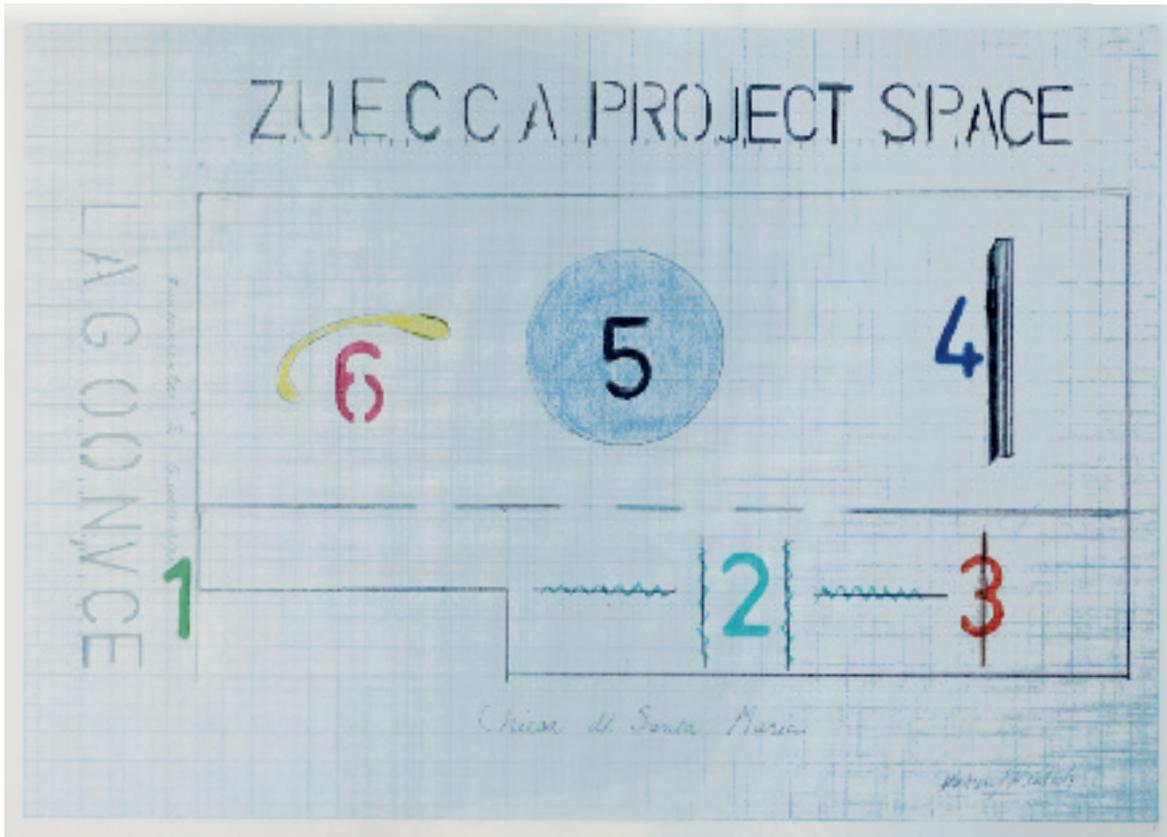
The sculpture will be accompanied by other works such as the experimental video entitled *Pizzagate: From Rumor to Delusion, 2019*, recently premiered at Transmediale Berlin, and a performative sculpture, *Scoring the Tweets, 2018*, first exhibited at the Priska Pasquer Gallery, Cologne, Germany.

Using Internet news streams and raw footage filmed at the Comet Ping Pong, the video acts as a soundtrack in dialogue with the sculpture. It collages the tale of Edgar Welch, who incensed by the fake news story, drove up from North Carolina, automatic rifle in hand, to free the children he thought were incarcerated there, with that of the exaggerated reaction on right-wing news feeds to the discovery of Marina Abramovic’s work *Spirit Cooking, 1997*, in the WikiLeaks emails of John Podesta, Hillary Clinton’s campaign manager.

*Scoring the Tweets, 2018*, is a delicate sculpture consisting of four sets of graphic scores generated from one hundred and ninety-four tweets made by Donald Trump commenting on fake news which were cut up and assembled upon scotch tape and then strung across microphone stands. During the opening days, as well as throughout the exhibition, musicians well versed in the techniques of improvisation will perform the scores.

Assembled together, these works begin to unravel the complex cultural, political and economic dynamics that define the mediated mass hysteria of American life today. During the opening of the exhibition, Neidich will also launch his book *Glossary of Cognitive Activism*, published by Archive Books. It will form the basis of soon to be announced series of performative lectures and talks taking place in the gallery as well as a multidisciplinary symposium on fake news.

Warren Neidich is an internationally recognized American artist and theorist living and working between Los Angeles and Berlin. His interdisciplinary installations use video, photography, neon sculpture and graphic scores to tease out the contested discourses informing the social brain. He is currently Professor of Art, Université de Technologie de Compiègne (UTC) – Sorbonne Universités, formerly a Professor of Art at Kunsthochschule Berlin-Weißensee (2016-2018), and is founder and director of Saas-Fee Summer Institute of Art, New York City and Berlin. Selected exhibitions include: Whitney Museum of American Art, LACMA, Walker Art Center, MoMA PS1, and Museum Ludwig, Cologne, just to name a few. He is represented by Priska Pasquer Gallery, Cologne and Barbara Seiler Gallery, Zurich.



LIST OF WORKS

- 1 Equal not Equal, 2016-2019
- 2 Scoring the Tweets, 2017-2019
- 3 Pizzagate: From Rumor to Delusion, 2018
- 4 Glass Imposition, 2019
- 5 Pizzagate Neon, 2017
- 6 Poetry Fragment, 2019

# WARREN NEIDICH RUMOR TO DELUSION

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Live Performance  
Scoring the Tweets

May 9, 2019  
7.00 pm – 8.00 pm

May 10, 2019  
1.00 pm – 2.00 pm  
4.00 pm – 5.00 pm

Dates  
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