

POSTHUMAN GLOSSARY

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POSTHUMAN GLOSSARY

Edited by Rosi Braidotti and Maria Hlavajova

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CONTENTS

vii

Epigenetic Landscape	132	General Ecology	172
<i>Susan M. Squier</i>		<i>Erich Hörl</i>	
Equation (Mathematical Thinking)	133	Geo-hydro-solar-bio-techno-politics	175
<i>Vera Bühlmann</i>		<i>John Protevi</i>	
Ethereal Scent	138	Geomythologies	178
<i>Wander Eikelboom</i>		<i>The Otolith Group</i>	
Exclusion Zone	140	Geopolitics	181
<i>Trevor Paglen</i>		<i>Ryan Bishop</i>	
Execution	141	Green/Environmental Humanities	184
<i>Critical Software Thing</i>		<i>Tobijn de Graauw and Elisa Fiore</i>	
Expulsions	145	Gulf Labor	187
<i>Saskia Sassen</i>		<i>MTL Collective (Nitasha Dhillon and Amin Husain)</i>	
Extended Cognition	148		
<i>Goda Klumbyè</i>			
Extinction	150	H	
<i>Claire Colebrook</i>		Hacking Habitat	191
		<i>Ine Gevers</i>	
F		Hypersea	193
Feminity	154	<i>Jenna Sutela</i>	
<i>Felicity Colman</i>		Hypersocial	195
Feminist Posthumanities	157	<i>Tiziana Terranova</i>	
<i>Cecilia Åsberg</i>		I	
Food	160	Informatic Opacity	198
<i>Karl Steel</i>		<i>Zach Blas</i>	
Forests	162	In-human, The	199
<i>Paulo Tavares</i>		<i>Katerina Kolozova</i>	
Four Elements	167	In/Human	201
<i>Gary Genosko</i>		<i>Keti Chukhrov</i>	
G		Insurgent Posthumanism	204
Gaga Feminism	170	<i>Dimitris Papadopoulos</i>	
<i>Jack Halberstam</i>			

Posthuman Metamorphosis (2008) and *Energy Forms* (2001).

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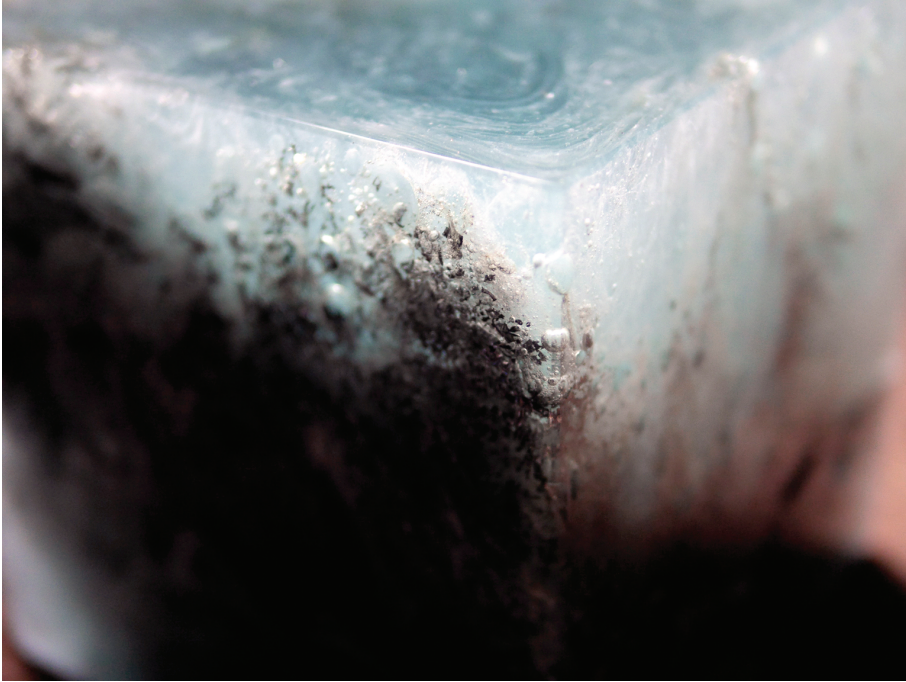
Alice Creischer studied philosophy, German literature and visual arts in Düsseldorf. Her artistic and theoretic agenda within

institutional and economical critique has evolved over twenty years, more recently focusing on the early history of capitalism and globalization. As co-curator of such paradigmatic exhibitions as *Messe 20k* (1995), *ExArgentina* (2004) and *The Potosi Principle* (2010), Creischer has developed a specific curatorial practice that correlates with her work as an artist and theorist, including her extensive practice in archive research.

Critical Software Thing is a collective of artists, thinkers and researchers interested in thinking 'thing' from the perspective of Software Studies. The group began as a series of discussions and shared set of interests around the notion of execution, addressing questions around what exactly execution is and where something like a computer program might be understood to execute. The group is working on a book project provisionally titled *Executing Practices* (as part of the *Data Browser* series). Contributors are Audrey Samson, Lea Muldtofte, Winnie Soon, Eric Snodgrass and Francisco Gallardo as part of the **Critical Software Thing** collective.

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Trevor Paglen, *Trinity Cube*, 2015, irradiated glass from the Fukushima Exclusion Zone, Trinitite, 20 × 20 × 20 cm. COURTESY OF THE ARTIST AND DON'T FOLLOW THE WIND.

work's inner core is made out of Trinitite, the mineral created on 16 July 1945 when the United States exploded the world's first atomic bomb near Alamogordo, New Mexico, heating the desert's surface to the point where it turned surface sand into a greenish glass.

Trinity Cube was created by melting these two forms of glass together into a cube, then installing the cube back into the Fukushima Exclusion Zone as part of the *Don't Follow the Wind* project curated by the Don't Follow the Wind Collective (Chim ↑ Pom, Kenji Kubota, Eva and Franco Mattes, Jason Waite), Fukushima, 2015 – ongoing). The artwork will be viewable by the public when the Exclusion

Zone opens again, any time between three and thirty thousand years from the present.

See also Expulsions; Extinction; Geo-Hydro-Solar-Bio-Techno-Politics.

Trevor Paglen

EXECUTION

Execution is a function that operates within a range of systems, such as language, computation or biology. The following entry traces a few of these instantiations of execution in order to highlight the materially discursive quality of any particular



Bourreau tranchant la tête d'une condamnée (Exécution de Léonora Galigai, 1617). PUBLIC DOMAIN IMAGE.

executing system, with the discussion moving from law and guillotine, language to *langue*, computer instruction and memory. In each case tracing the way in which execution produces situated posthuman couplings in a dynamic ensemble of such conjugating systems.

The word execution stems from *l'exécuteur du testament* (twelfth-century French), designating the executor of the will. Here we see how execution is from its inception embedded in regulatory forms of bureaucracy (Vallaro 2005). The ancestor of the will executor was the *bourreau*, whose function goes at least as far back as Ancient Rome, and who performed executions decreed by the court, punishment as spectacle and demonstration of power, perceived as a means to socially regulate crime and disobedience (see the illustration). This social function was actualized in the public square, where beheadings took place literally *live*. As an effectuation of a sentence, execution always relates to the now, to an actualization, a presence which is always already over.

Execution in this instance then is not dying, but specifically to be deprived of

being. It is not deceasing, nor is it homicide, it is death by punishment. It is sudden death forced upon a body of punishment which has no control over the violence executed by the system. In these iconic, self-presencing actualizations, we are made to forcefully witness execution's quality as an event, an act of a juridical, political, technical or biological discourse enacted decisively upon its sentenced subject.

Language can be seen as such a discursive system, one that executes by consisting of two separate dimensions: *langue* and *parole* (Saussure 1916). *Langue* as the system of language is the formalized structure, the underlying system of distinct signs, opposing *parole*, which is articulated speech. Thus *parole* is the executive side of language. The crucial point here is that exercising language is not a shift from the non-linguistic to the linguistic. It is the actualization and execution of a system into an instance of discourse.

In relation to this, subjectivity in language is inseparable from the moment of execution, the instance in which language as system becomes language-in-use (when *langue* is converted into *parole*). An execution deictically designates a speaker, therefore it is when entering language and converting the virtual system to actual use that the subject is constituted (Benveniste 1958). However, the subject evaporates in its own articulation of itself as it becomes a mere property of a symbolic system. Execution of language is thus related to the 'killing of the subject' (Barthes 1968) – it is in the actualization of the language system that the speaking subject produces itself as an abstraction separated from a body. Executable systems like language can therefore be said to be inherently violent, effectuating a killing, be it abstract or literal.

The tongue, the embodied executioner of language, the interface of executing *langue*, both gobbles and babbles. Following

Michel Serres' account of the five (human) senses, every time an organ – or function – is liberated from an old duty, it re-invents itself (Serres 2001). As Hominina¹ stood up from her quadruped ancestor, the tongue, freed from the vital necessity to sense danger, became a universal tool (Serres 2014: 2). According to Serres, the 'information imperative' is to receive, store, process and emit information. The tongue's embedded subjectivity has become a literal geographical expansion of the post-industrial and the nutraceutical² market. It divides bodies between obese/skinny, food between organic/fair-trade. It clears Amazonian rainforests for soya plantations used for feeding livestock (Morton et al. 2006). It fractions populations between young high-paid social entrepreneurs and the violently displaced. The tongue is a decisive and divisive organ of gentrification and land forming.

Such discursive systems divide and conquer, working to make entities executable according to their particular logics and delimited needs. In his foundational article 'On Computable Numbers, with an Application to the Entscheidungsproblem', Alan Turing provides a definition of computability as that capable of being enumerated and made into effectively calculable algorithms for execution upon and by machines (1936). In the further materialization of Turing's thesis into actual computing machines, the act of making things discrete, so as to be computable, becomes one of establishing machine-readable *cuts*. These are the switchable on and off state elements, or flip-flops that are enacted at the level of logic gates used to store and control data flow. Such flippable states constitute the material basis that allows for the writing and running of the executable binary instructions of machine code upon this 'manic cutter known as the computer' (Kittler 2010: 228).

Such cuts – execution performed by computation – are expressed at the temporal dimension of code execution, constantly rendering the now in networked and pervasive conditions. The fetch–execute cycle in computing is used to describe the operational steps of performing code instructions by a Central Processing Unit (or CPU) following its clock cycle. A CPU fetches each instruction from the memory and breaks it down into micro-instructions, including the controlling operation sequence, computing, transferring, reading, updating and storing data in memory (Burrell 2004). Thus what is written in a piece of source code should only be regarded as a partial instruction within a wider, dynamic ecology of many executing systems. When extending the notion of execution into any dynamic networked environment in which things are networked seamlessly and data is processed continuously, there are different 'micro-decisions' that are executed at the level of network protocols to control and regulate the transmission of data (Sprenger 2015). Such deep internal and operational structures of computation, data processing and digital networks execute a distinctive rhythm and temporality; a computational form of 'micro-temporality' (Ernst 2013: 57).³ These computational cuts and micro-decisions are intertwined, dynamic and subject to change at any moment of time. In other words, execution involves micro-instructions, micro-operations and a micro-temporality of things where codes, materials and actions are conflated in a dynamic environment. This micro-temporal dimension of execution again draws attention to the phenomena of *now*; the dynamics of execution that constantly render the now.

Any such cuts in the name of executability can be compared to what Karen Barad refers to as 'agential cuts' (2007: 429). They are made in the name of a certain agency; in the case of computer code, a computa-

tional agency. In its levelling of all data into a binary form of on and off, computational cuts enact a radical and seemingly non-discursive treatment of information. The data structures of computing are noticeable for the way in which they are particularly amenable to reconfiguration and application towards a range of operations (Lovlace and Menabrea 1842). Such a changing of states and configurations is, unsurprisingly, often strongly felt by any entities brought into contact with their executing logics. Turing himself was made to be acutely aware of this executive power of code, whether programmable, political or cultural. Definable as a war hero according to one set of patriotic parameters, he soon found himself rapidly switched from national saviour back to sexual deviant and criminal to be persecuted by the state. Computable according to some logics and configurations; uncomputable according to others. Such is the potential power and violence of any cut and its executability.

This violence of entangled and often competing executable logics inevitably leaves 'marks on bodies', in which the marks are 'the differences materialized' (Barad 2007: 89). From Turing's chemical castration to the growth of synapses catalysed by repeated stimulus, organisms bear the marks of inscription and execution. Implicit memory, in the Pavlovian tradition, is inscribed into long-term memory through habituation. The environment is constantly executing memory. Such is the power and force of trauma that it bootstraps long-term memory creation (Kandel 2006: 342). Nevertheless, memory is also *forgetting*, a dynamic process of constant read/write execution. The recalling of memories is based on chemical exchanges within highly mutable synaptic networks that require protein synthesis (Nader, Schafe and Le Doux. 2000). As memory is reactivated, it mutates. Memory becomes

an ongoing site of execution, rather than one of static storage, in which both habituation and deletion are crucial. The brain actively erases information as part of its regulatory processes (Hadziselimovic et al. 2014). In the absence of this regulatory function, a human becomes crippled by a form of neurological condition called hyperthymesia.⁴ Erasure and death are regulatory functions performed through execution and its continuous actualization.

The very etymology of execution is administrative, and as a regulatory processing of living beings, bureaucracy is the performance of the law. But a violent disjunction occurs in the conflation of law and execution: the state of exception; or the conflation of death and execution: capital punishment. Cuts, which are inherently exclusionary, also contain a ready potential of violent impositions of a system onto bare life (Agamben 2005). If the cut and its execution materialize on the one hand in the actualization of an event, they can also, in biopolitical fashion, take on an operative function as a self-perpetuating *threat* of violence to come. Such menacing *potential* events of crisis become important in actual execution, helping to prompt a range of pre-emptive forms of violent coded logics and crisis-oriented forms of execution (Cox 2015; Chun 2016).

Execution situates and is situated. Whether via the tongue, the guillotine, the CPU or the synapses, execution produces integral couplings of subjectivity and desubjectivity through systems such as those of language, of judiciary, of computation and of memory. A powerful force, leaving marks on bodies and indelible traumatic memories. Such ecologies of execution are manifold, and the effectuation of a system is always conjugating amongst a mesh of other heterogeneous agents, processes, energies and material strata.

See also Non-human Agency; Mattering; Ecosophy; Extinction; Necropolitics; Violence.

Notes

1. Originally described as one of the earliest ancestors of humans after they diverged from the main ape lineage.
2. A portmanteau of the words nutrition and pharmaceutical. Although the term can be attributed to Stephen L. DeFelice, food as medicine has a long tradition in western medicine, as Hippocrates famously put it in 'Let food be thy medicine and medicine be thy food.' The term is applied to marketed products as wide as isolated nutrients, dietary supplements and herbal products, specific diets, processed foods and beverages.
3. Taken from Wolfgang Ernst, *micro-temporality* refers to something that is processual and operative, a different understanding of historical and narrative macro time (Ernst 2013).
4. For further explanation on hyperthymia see 'What is Hyperthymia? The Highly Superior Autobiographical Memory (HSAM)', <http://hyperthymia.net/hyperthymia/> [accessed 13 April 2017].

Critical Software Thing

EXPULSIONS

At the Systemic Edge (A Ruminantion)

I use the term 'expelled' to describe a diversity of conditions. They include the growing numbers of the abjectly poor, of the displaced who are warehoused in formal and informal refugee camps, of the minoritized and persecuted in rich countries who are warehoused in prisons, of

workers whose bodies are destroyed on the job and rendered useless at far too young an age, of able-bodied surplus populations warehoused in ghettos and slums. But I also include the fact that pieces of the biosphere are being expelled from their life space – and I insist that the tame language of climate change does not quite capture the fact, at ground level, of vast expanses of dead land and dead water.

My argument is that this massive and very diverse set of expulsions is actually signalling a deeper systemic transformation, one documented in bits and pieces in multiple specialized studies, but not quite narrated as an overarching dynamic that is taking us into a new phase of global capitalism – and global destruction. As an analytic category, expulsions are to be distinguished from the more common 'social exclusion': the latter happens inside a system and in that sense can be reduced, ameliorated and even eliminated. Expulsions as I conceive of them happen at the systemic edge. In the types of complex systems I focus on, there are multiple systemic edges. This partly reflects the multiplicity of diverse domains in such systems: from prisons and refugee camps to financial exploitations and environmental destructions.¹

Today, after twenty years of a particular type of advanced capitalism, we confront a human and economic landscape marked by divergent dynamics. On the one hand, there is the familiar reconditioning of terrain in the direction of greater organizational and technological complexity, epitomized by the state-of-the-art space of the global cities that are proliferating in the North and the South. This extreme upgrading comes at a high price to those excluded from its riches (Sassen 2001, 2016a).

On the other hand, there is a mix of emergent conditions often coded with the seemingly neutral term of 'a growing surplus population'. A key underlying

