The Next Biennial Should be Curated by a Machine - A Research Proposition

Joasia Krysa and Leonardo Impett

The Next Biennial Should be Curated by a Machine is a research proposition - an inquiry into the relationship between curating and Artificial Intelligence (AI), and the possibility of developing an experimental system[1] capable of curating, based on human-machine learning principles.[2]

Making reference to the *e-flux* 2013 project 'The Next Documenta Should Be Curated by an Artist'[3] which questioned the structures of the art world and the position of curators within, this project extends the question to machines.[4] It asks how the counterpoint of automata might offer alien perspectives on conventional curatorial practices and curatorial knowledge? What would the next Biennial be like if machines intervened in the curatorial process, and helped to make sense of vast amounts of art world data that far exceeds the productive capacity of the human curator alone?

The project takes the form of a series of research and artistic experiments that explore the application of machine learning algorithms (a subset of AI) to curation of large scale periodic contemporary art exhibitions, such as biennials, to reimagine curating as a self-learning human-machine system. [5]

Under this overarching concept, two parallel experiments are developed in the framework of Liverpool Biennial: B³(NSCAM) and AI-TNB.

B³(NSCAM) is developed as a collaboration with artists Ubermorgen, co-commissioned with The Whitney Museum of American Art for its online platform artport, curated by Christiane Paul. [6] It uses archival text material and datasets from both commissioning institutions and processes them through a group of machine learning algorithms, collectively named B³(NSCAM). [Fig. 5] Processing datasets (including curatorial texts) linguistically and semiotically, the AI system 'learns' their style and content, breaking and mixing them together. The generated texts are then presented to the user, with a degree of interactivity and 'branching', iteratively rewriting small parts of its own text at random.

A parallel experiment, AI-TNB is commissioned as part of UKRI/AHRC Strategic Fund: *Towards a National Collection* to explore machine curation and visitor interaction in large scale exhibitions, taking Liverpool Biennial 2021 as a case study [7] [Fig.1] In this experiment, the biennial exhibition curated by Manuela Moscoso across multiple venues in Liverpool in the spring 2021, is interpreted as a parallel machine-curated online version.[8] The resulting 'curatorial AI system', or an AI Biennial, is an excercise in interaction through large datasets, using computer vision and natural language processing techniques with a focus on *human-machine co-authorship*.[9] [Fig. 2, 3, 4]

Our relationship to computers is rapidly changing and so are developments in automation (AI), and so is our understanding of creative practices, including curatorial practice. The overall project takes machine learning algorithms beyond the 'search engine' paradigm in which they have been mostly used to date, and instead considers them to be curatorial agents, working alongside human curators.[10, 11] There are a number of issues arising from this, such as the degree to which creativity is compromised by the 'intelligent' machines we use, as well as how biases become reinforced.[12] Algorithms are biased because certain elements of a dataset are more heavily weighted, and once a system is trained on this data, further errors follow that broadly reflect inherent human biases in society. Can something similar be said of the art world, where one might imagine there to be a shared 'dataset' of artists and curators that reflect biases inherent to the art world? If this seems far too simplistic, it becomes more interesting once these two operating systems are correlated, and when they become entangled, and to speculate on what each might learn from the other. It is not just a case of identifying concerns – such as around inclusion of marginalised communities or worries about the forms of creativity produced through AI – but also an opportunity to think about the transformation of human-machine relations and curatorial practices.

In undertaking these various experiments, the intention is to explore the application of machine learning algorithms to envisage alternative forms of exhibition-making and curatorial agency that dissolves hard distinctions between humans and machines. When the projects asks whether *the next biennial should be curated by a machine*, it posits further questions about emergent forms of creativity and the larger infrastructures within which it operates. What alternative practices might emerge from these

entanglements, and what new perspectives on conventional curatorial practices and curatorial knowledge might be generated?

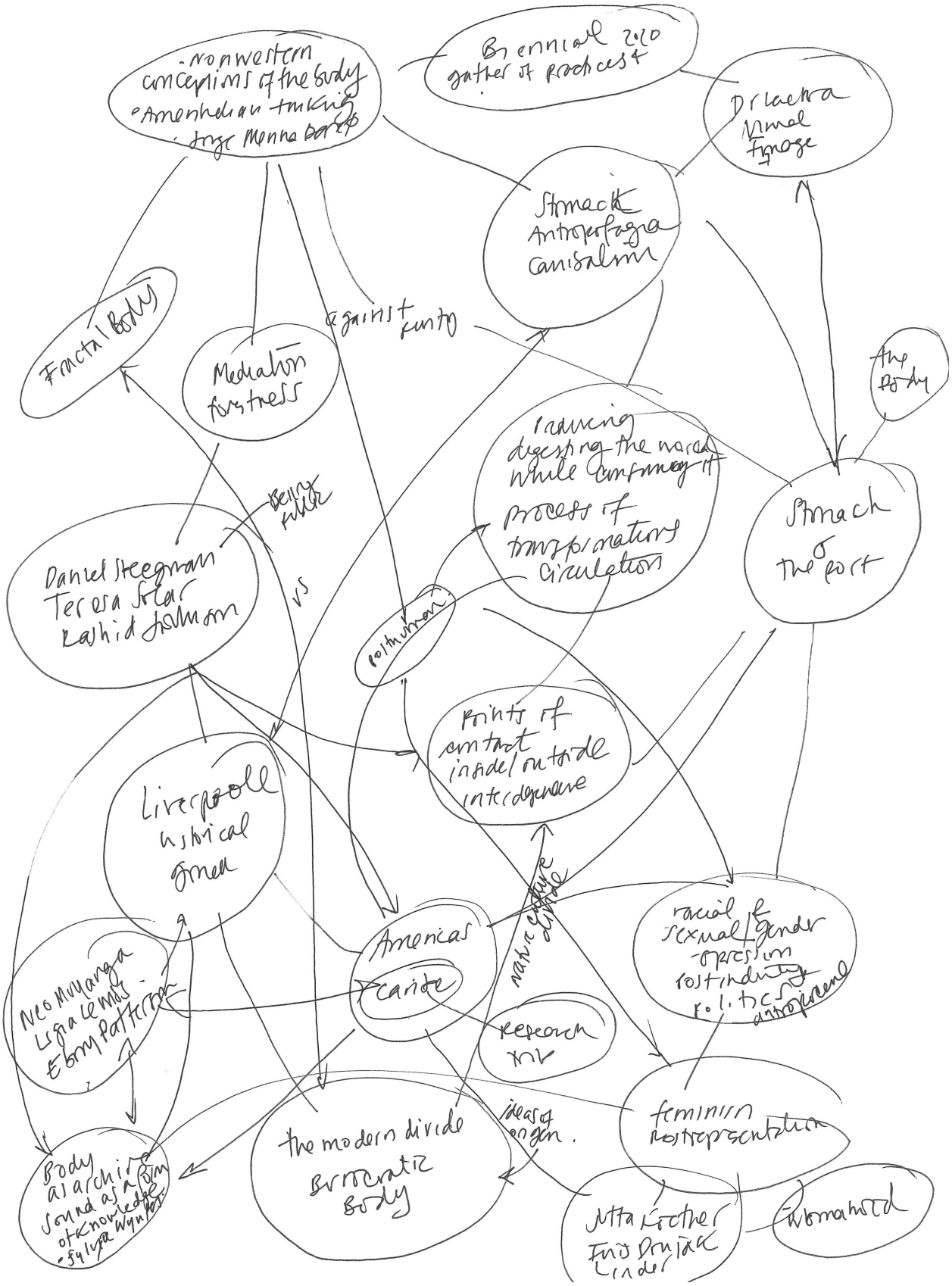

Biennial 2020 gather of practices
Drlaetra Animal Image
Stmack Antropofagia Canibalism
Fractal Body
Mediation fortress
against purity
The Body
Daniel Steegmann Teresa Solar Rashid Johnson
being outside
vs
Stmach The Port
Liverpool historical frmen
Points of contact inside/outside interdependence
Americas
Caribe
racial & sexual/gender oppression postindustry colonialism
research axis
Neo Nuyanga Legacies Ebony Patterson
Body Sound as a form of knowledge Sylvia Wynter
the modern divide Bureaucratic Body
ideas of origin.
feminism Postrepresentation
Afterword

Figure 1. Curatorial sketch for Liverpool Biennial 2021, by its curator Manuela Moscoso (2019). Courtesy of Manuela Moscoso and Liverpool Biennial.

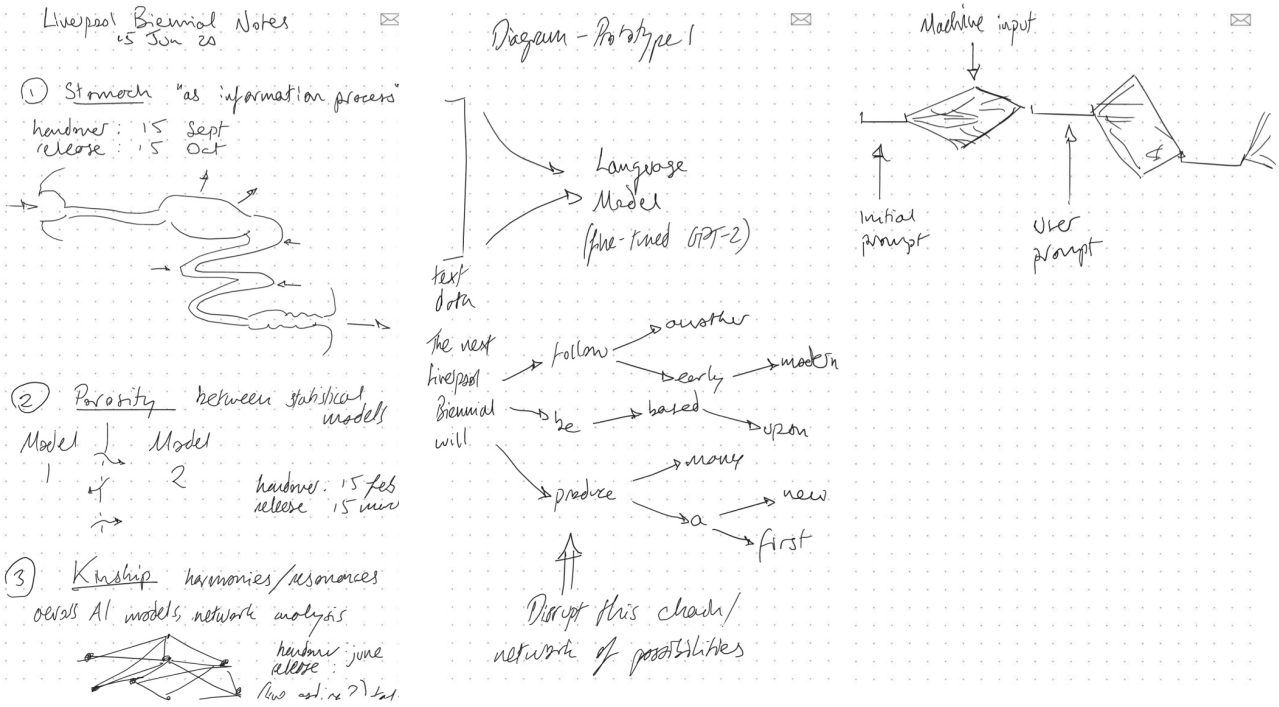


Figure 2 (Left). Plan for representing LB2021 themes at the neural-architectural level, Leonardo Impett, drawing (2020).

Figure 3 (Middle). Diagram for glitching decision trees of parallel text-hypotheses, Leonardo Impett, drawing (2020).

Figure 4 (Right). Sketch of the width of probabilities (probability distributions expanding and collapsing) under machine and user input, Leonardo Impett, drawing (2020).

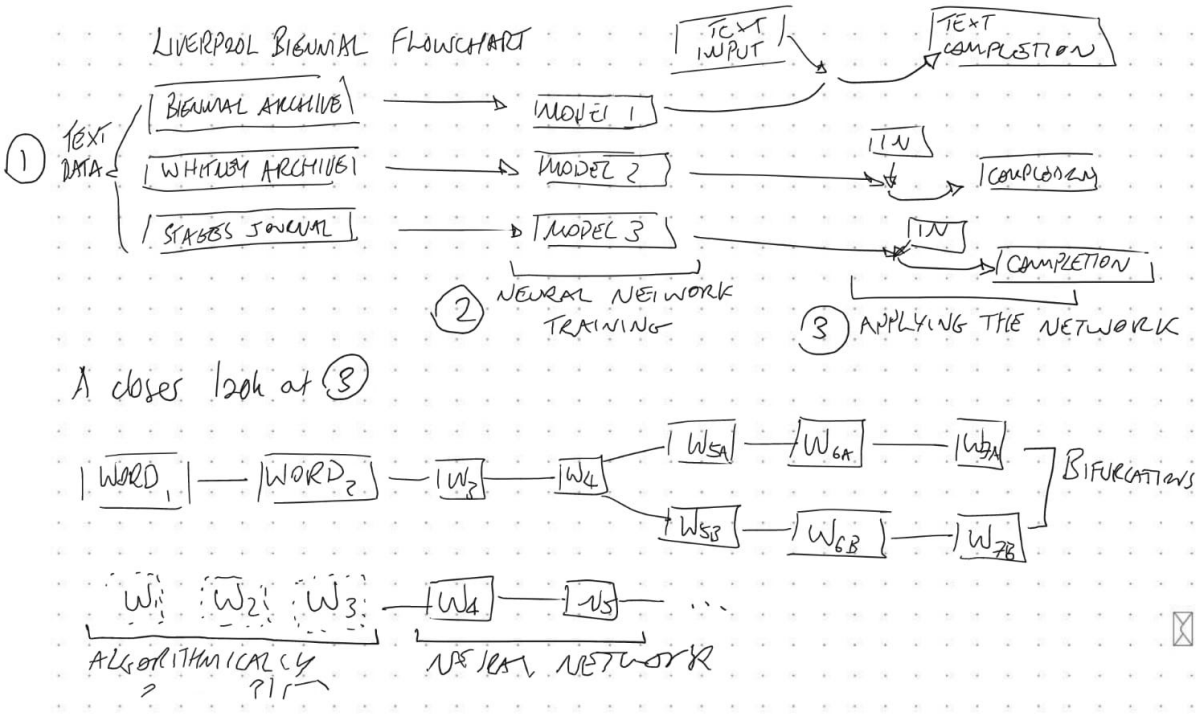


Figure 5. Sketch for planning multi-model bifurcations, Leonardo Impett, drawing (2020).

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[1] For a definition of experimental system see: https://en.wikipedia.org/wiki/Experimental_system. This research was partly funded by UKRI's Arts Humanities Research Council program 'Towards a National Collection' under grant AH/V015478/1.

[2] *The Next Biennial Should be Curated by A Machine* is a research proposition and an umbrella concept that gathers various experiments exploring the application of machine learning techniques to curating; title and curatorial concept by Joasia Krysa, technical conceptualisation and development by Leonardo Impett, first experiment B³(TNSCAM) developed as a collaboration with artists Ubermorgen, co-commissioned with the Whitney Museum of American Art for its online platform artport, curated by Christiane Paul. Further research funded as part of UKRI/AHRC Strategic Priorities Fund: Towards National Collection at: ai.biennial.com. This text draws upon our initial call released on eflux (2019): https://www.e-flux.com/announcements/291923/the-next-biennial-should-be-curated-by-a-machine/.

[3] e-flux, 'The Next Documenta Should be Curated by an Artist', 2013. https://www.eflux.com/announcements/42825/the-next-documenta-should-be-curated-by-an-artist/.

[4] Krysa, Joasia, ' Can Machines Curate?', keynote lecture at the 5th National Symposium of the Brazilian Association of Cyberculture Researchers ABCiber 2011, published in Digital Art: fractures, proliferative preservation and affective dimension, edited by Yara Guasque, pp. 38-89. Coleção Fast Forward / UFG/Media Lab, 2014. Also see Krysa's earlier experimental software curating online project entitled *Kurator* (2005), presented at Tate Modern and published in Curating Immateriality (2006) and as a chapter entitled 'Kurator - a proposal for an experimental, permutational software application capable of curating exhibitions' in *Networks* (ed. Lars Bang Larsen), Documents of Contemporary Art: Whitechapel Gallery and MIT Press (2014).

[5] Machine learning is defined as the study of computer algorithms that improve automatically through experience, as a sub-part of artificial intelligence. See Glossary in this volume for more detail.

[6] B³(NSCAM) is presented at The Whitney Museum of America Art's online platform artport,

curated by Christiane Paul. See our call for datasets released on eflux (2019): https://www.e-flux.com/announcements/291923/the-next-biennial- should-be-curated-by-a-machine/.

[7]11th Edition of Liverpool Biennial (2021) entitled The Stomach and the Port is curated by Manuela Moscoso across multiple venues in Liverpool, launched 20 March 2021. https://www.biennial.com/2021

[8] AI-TNB is developed as funded research part of UKRI/AHRC Strategic Priorities Fund: *Towards National Collection - Opening UK Heritage to the World*; to explore 'Machine Curation and Visitor Interaction in Virtual Liverpool Biennial 2021'; project partners Durham University (Leonardo Impett, project PI), Liverpool John Moores University (Joasia Krysa). Forthcoming at: ai.biennial.com/.

[9] Impett, Leonardo., Herman, I., Wollner, P. K., & Blackwell, A.F.. "Musician Fantasies of Dialectical Interaction: Mixed-Initiative Interaction and the Open Work", in *International Conference on Human-Computer Interaction* (Springer, Cham, 2018), pp. 184-195.

[10] Crawford, Kate and Vladen Joler, *Anatomy of an AI System: The Amazon Echo as an Anatomical Map of Human Labor, Data and Planetary Resources*, AI Now Institute and Share Lab, 2018. https://anatomyof.ai/.

[11] Impett, Leonardo, "Irresolvable contradictions in algorithmic thought", published in this volume (Stages 9/2021). https://www.biennial.com/journal/

[12] Noble, Safiya Umoja, *Algorithms of Oppression: How Search Engines Reinforce Racism* (New York University Press, 2018).

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