THE BRAIN IS A VERY NOISY ENVIRONMENT

KATJA NOPPES

THE BRAIN IS A VERY NOISY ENVIRONMENT

Drawings part II

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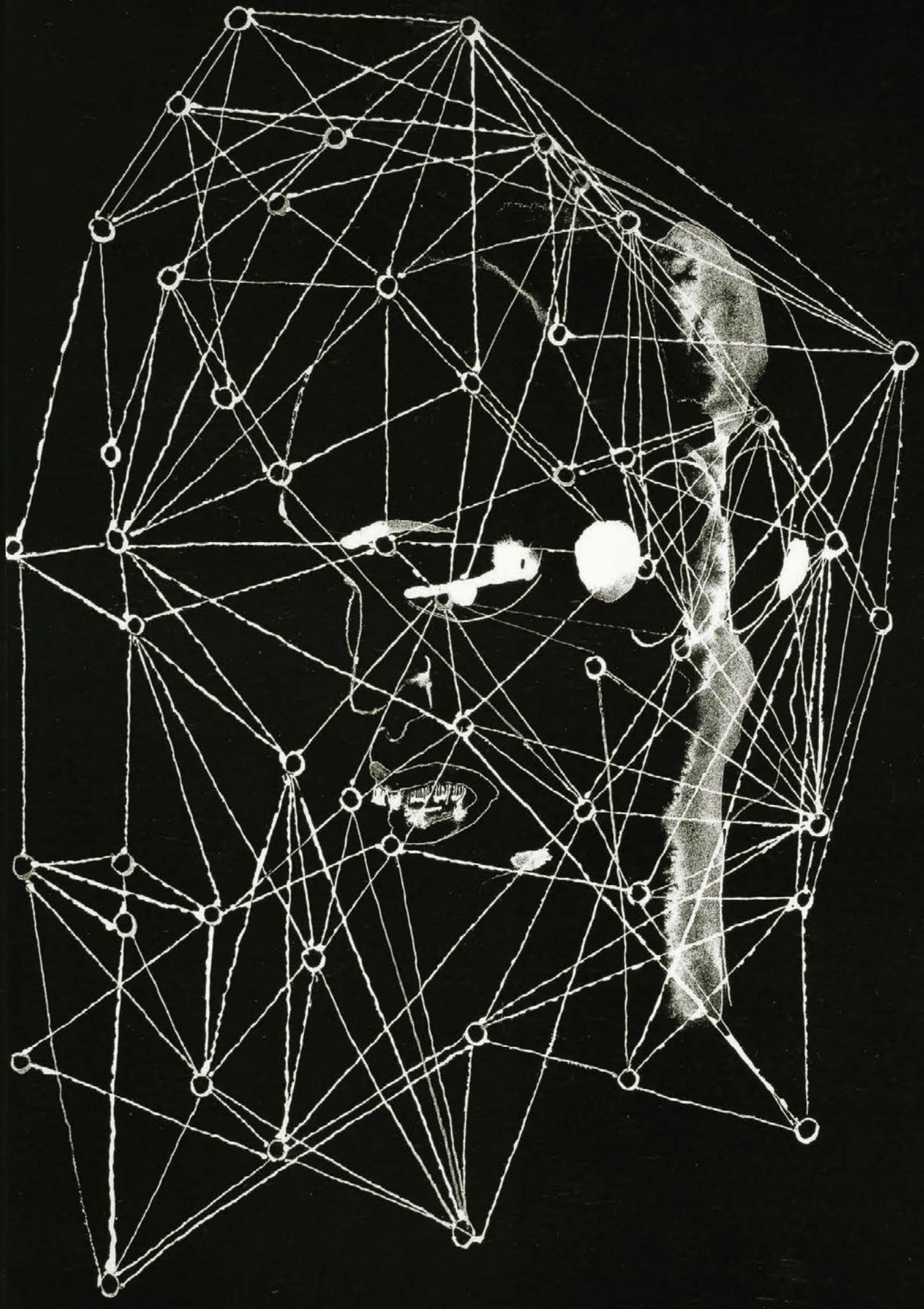

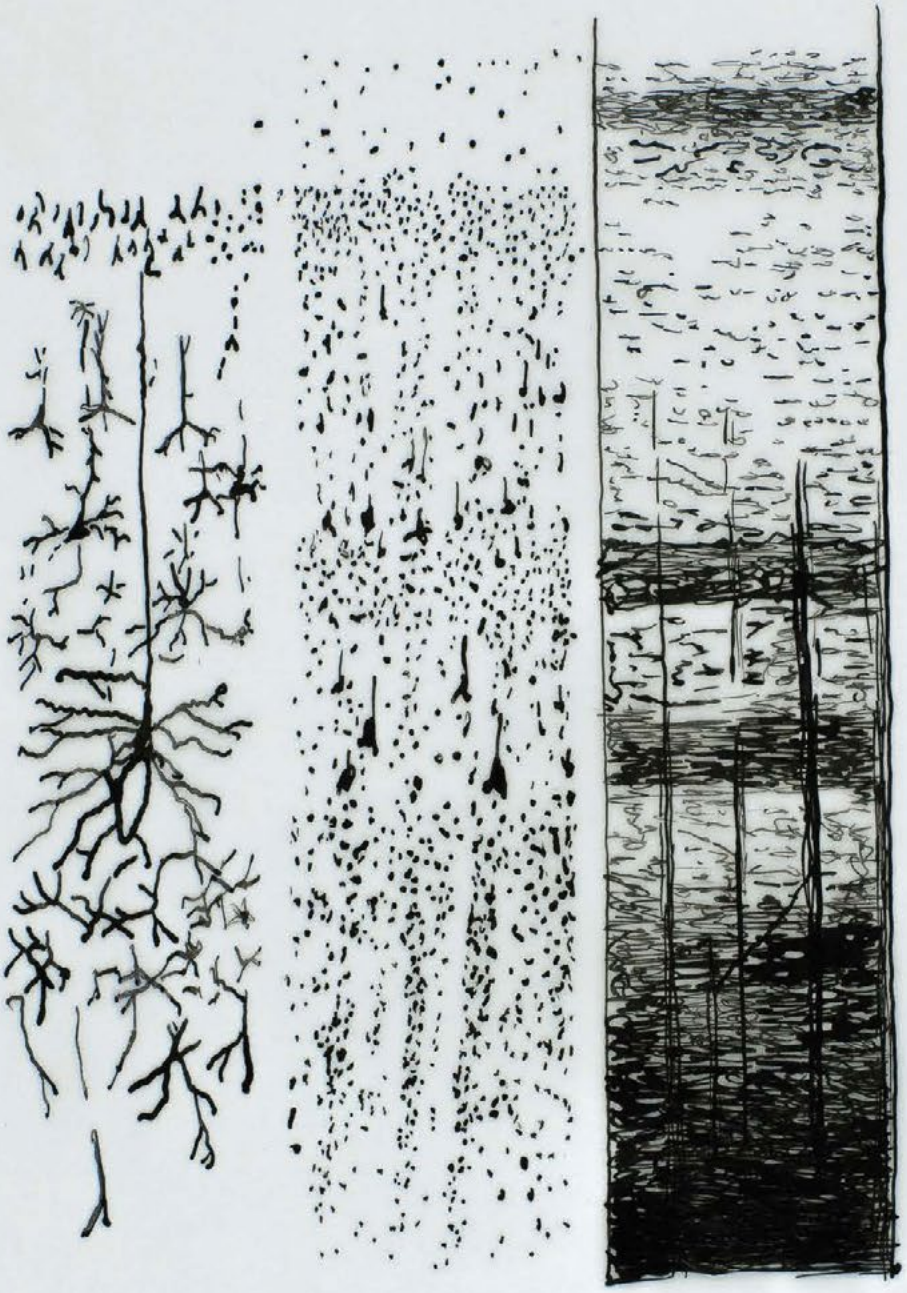

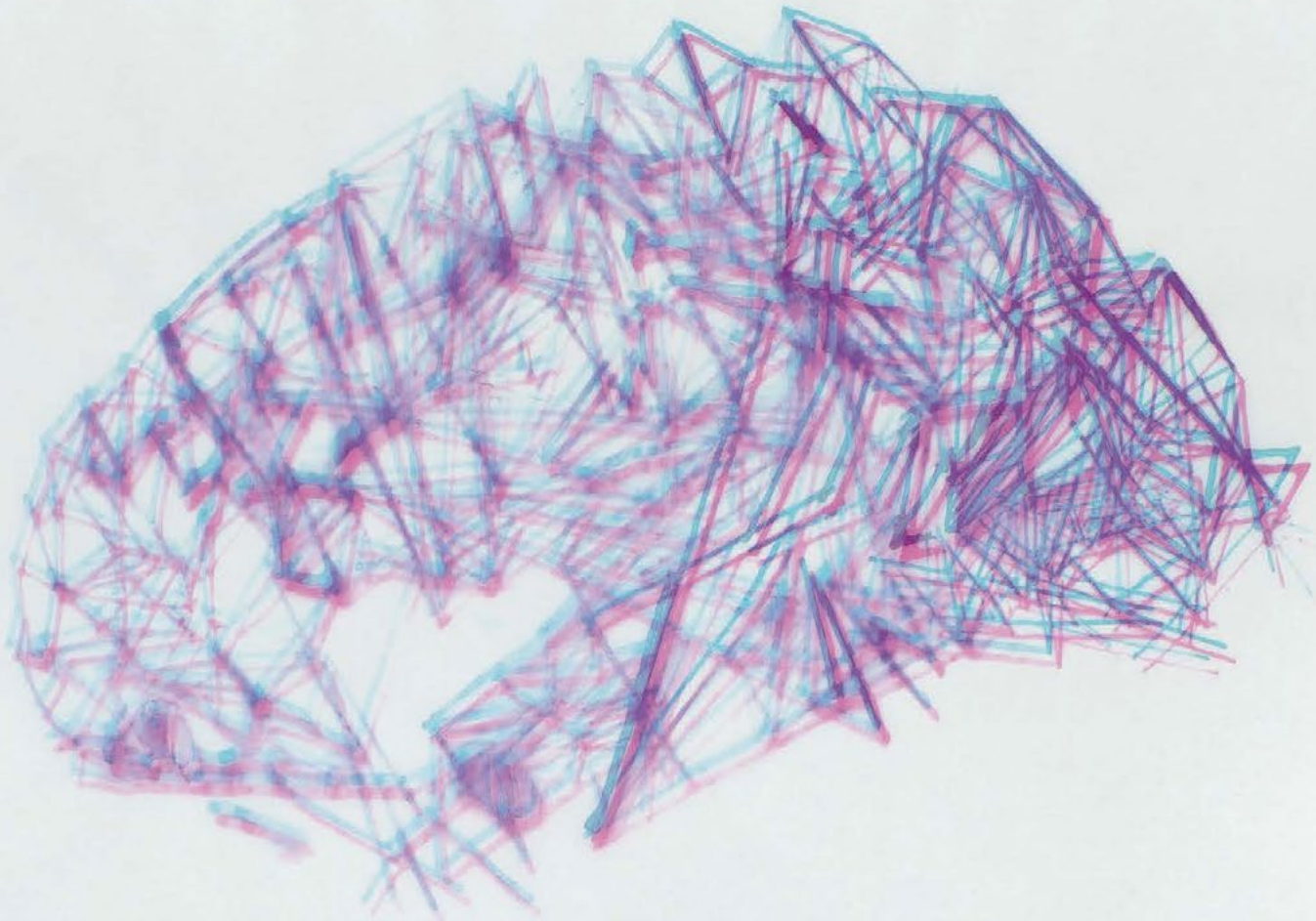

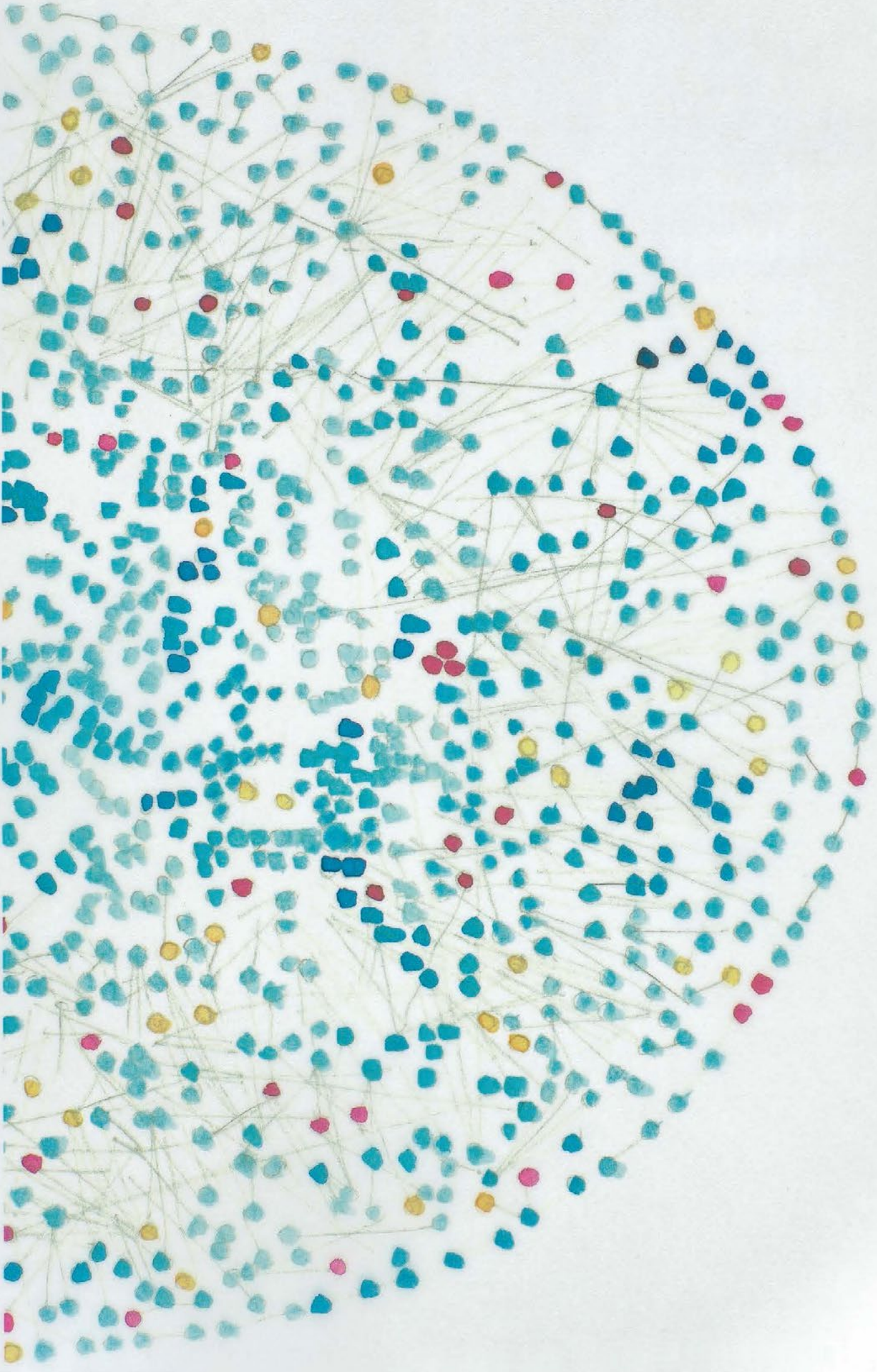

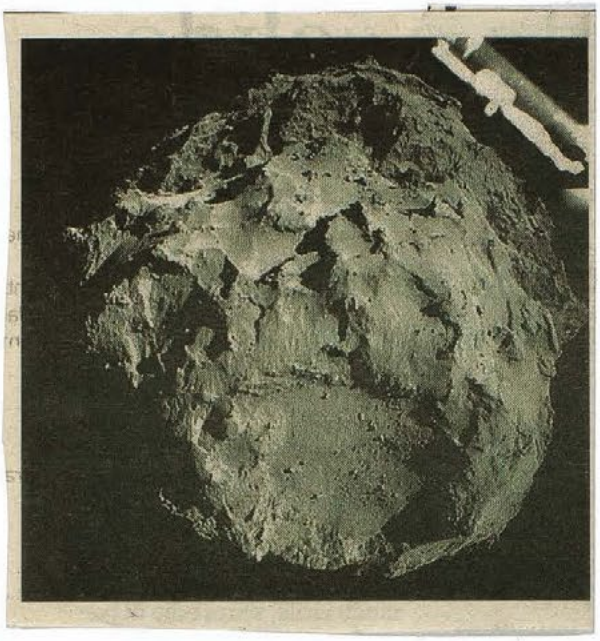

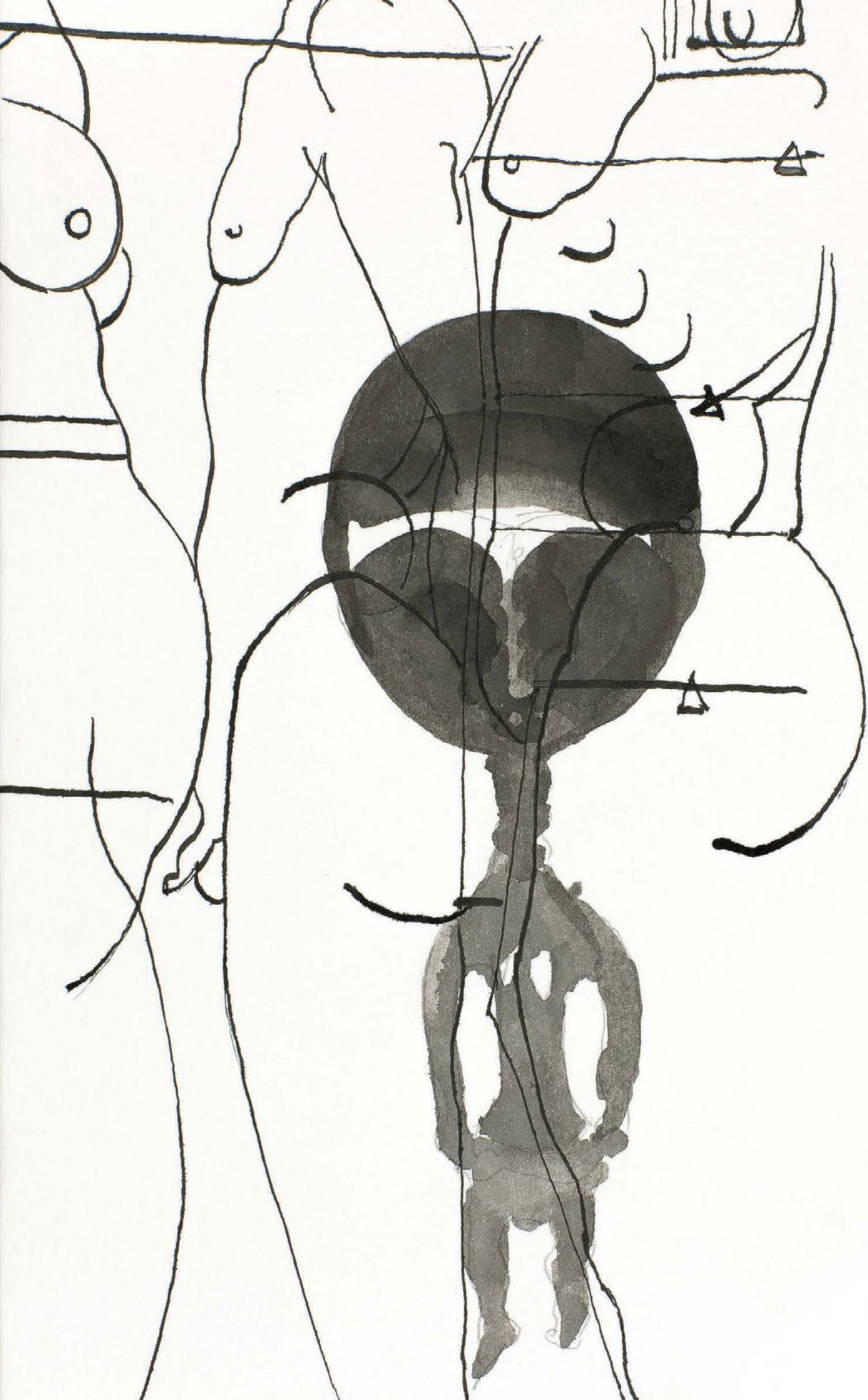

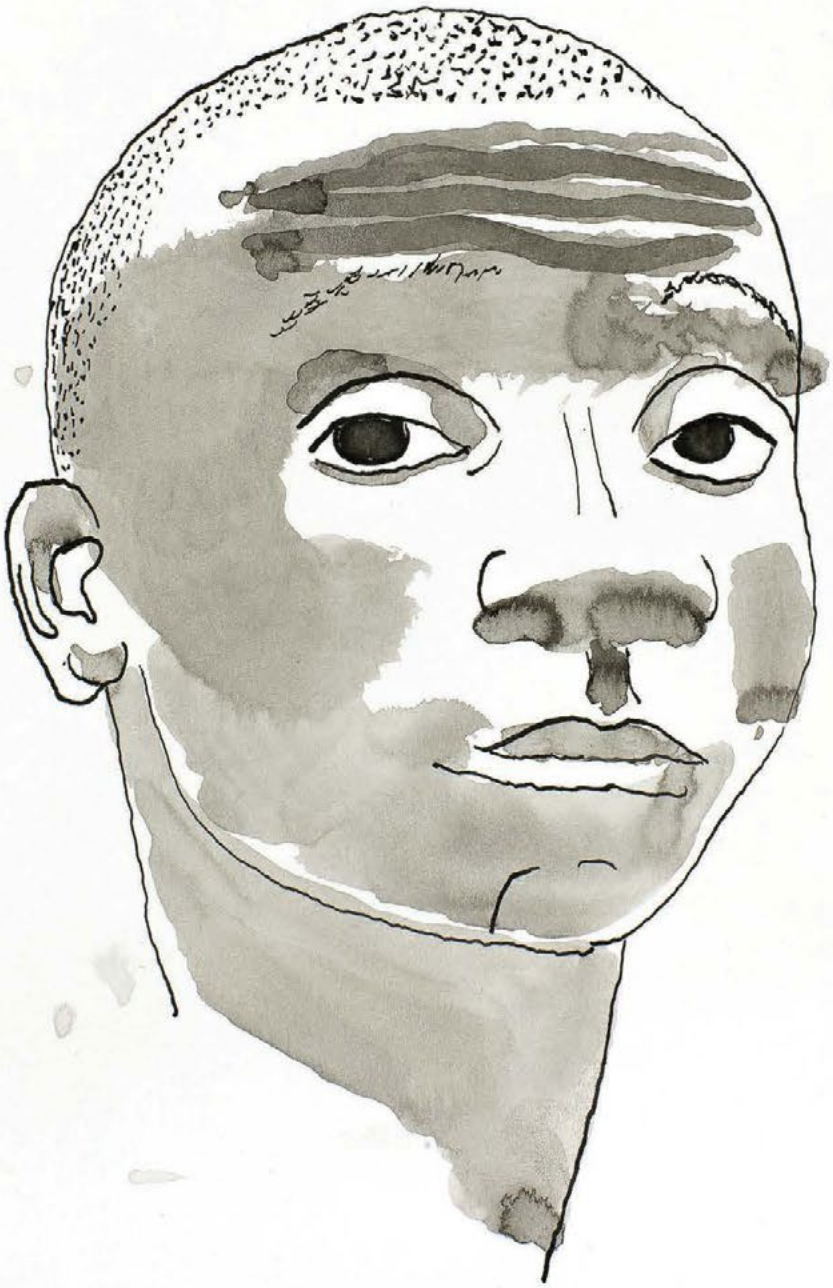

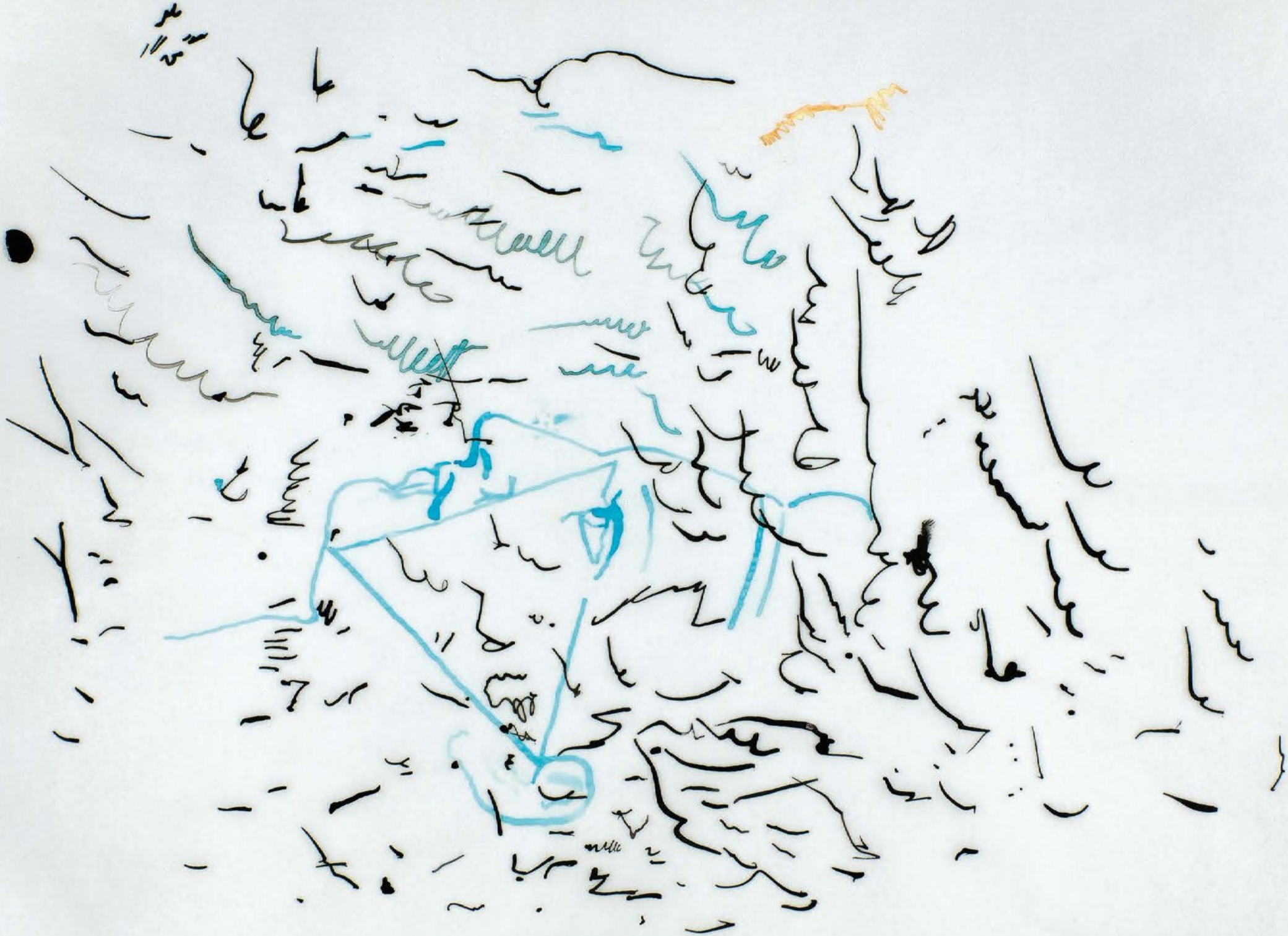

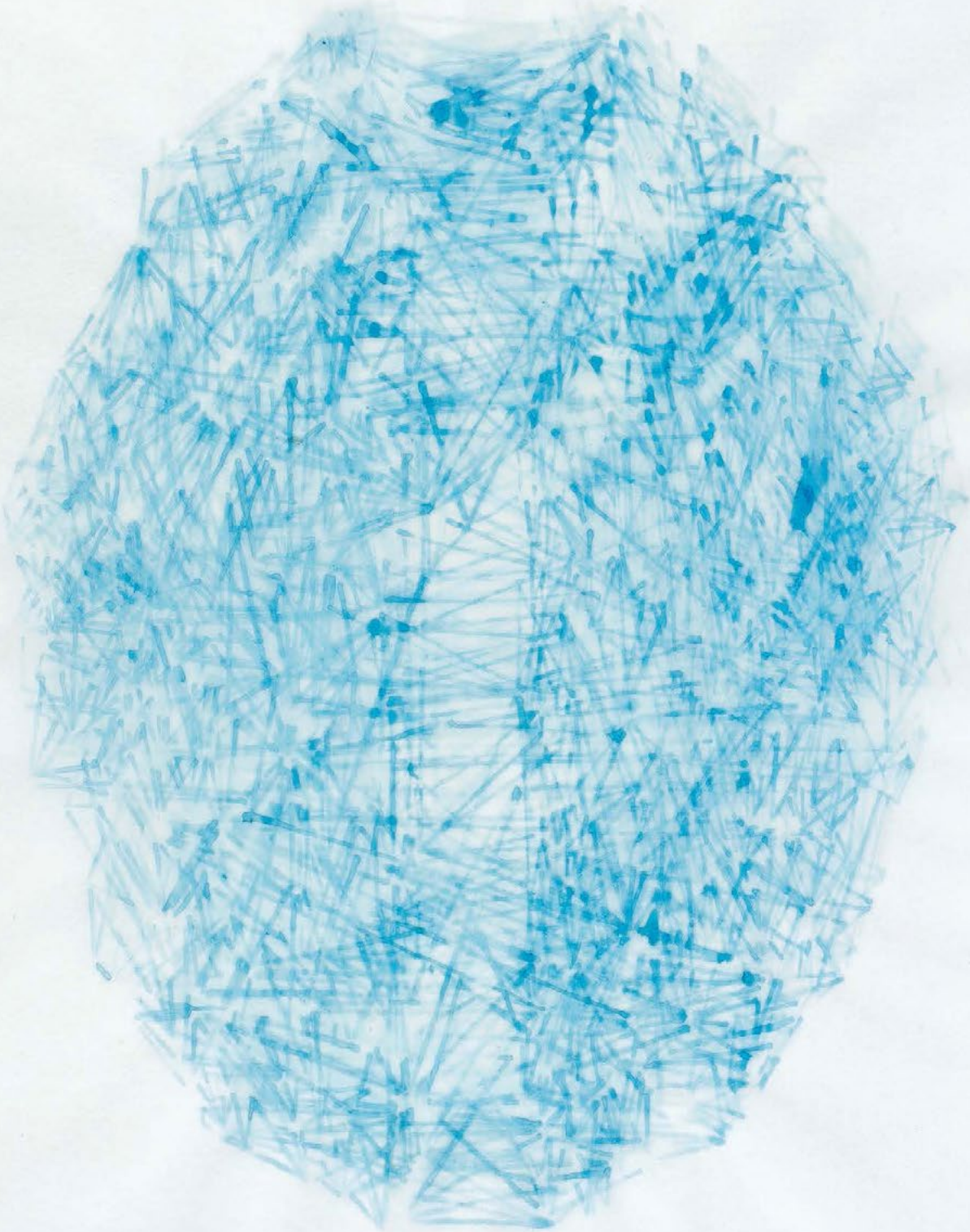

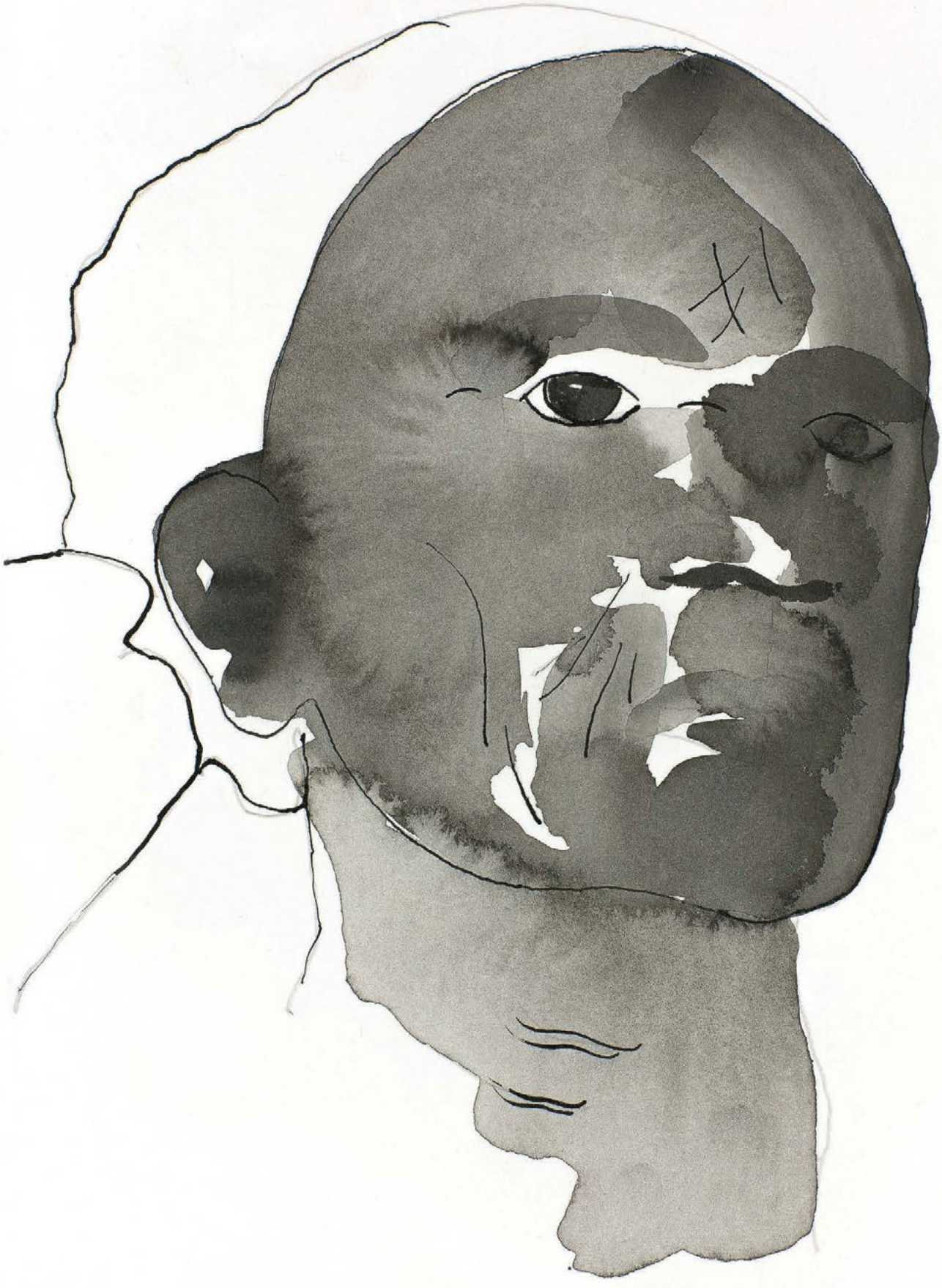

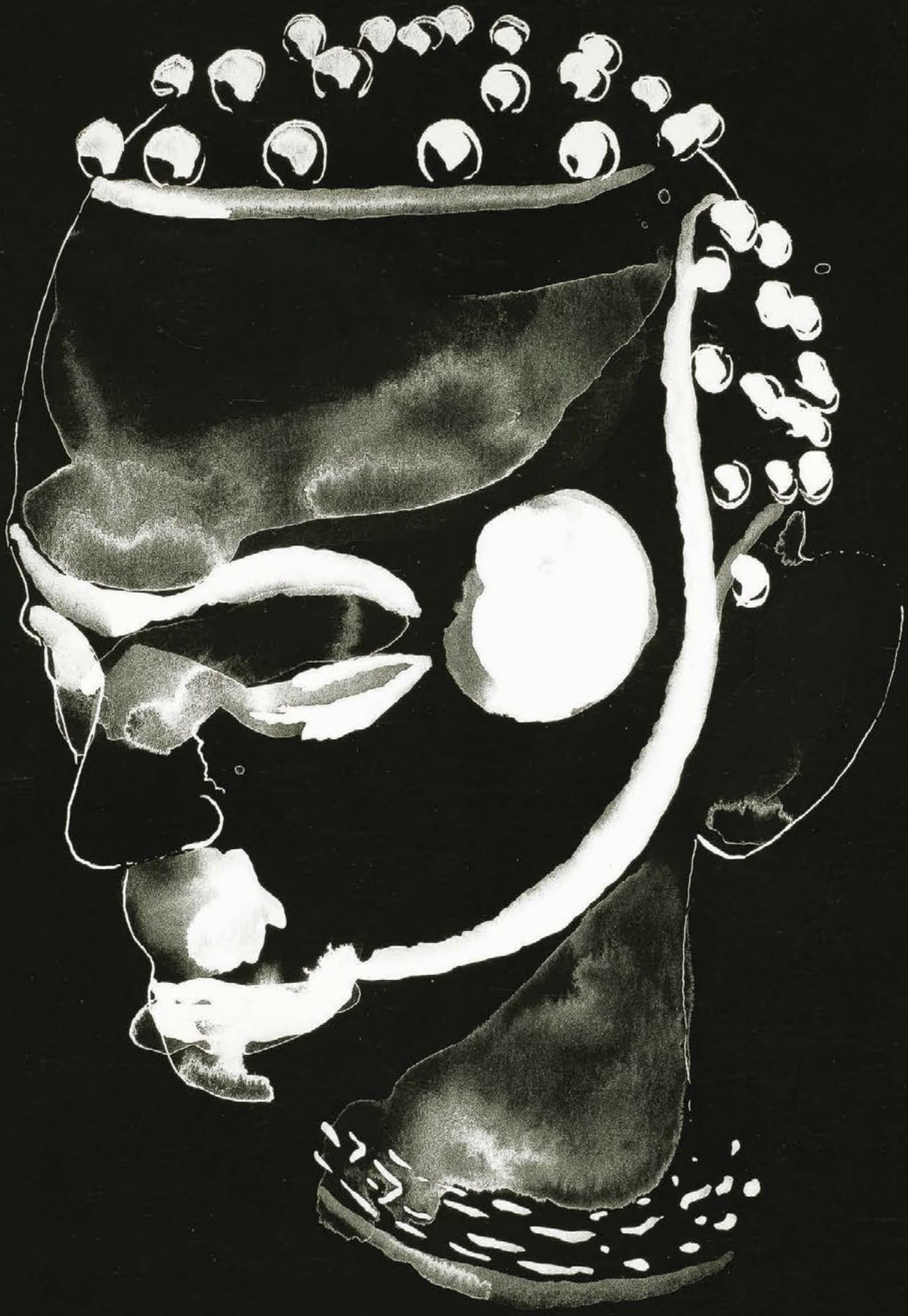


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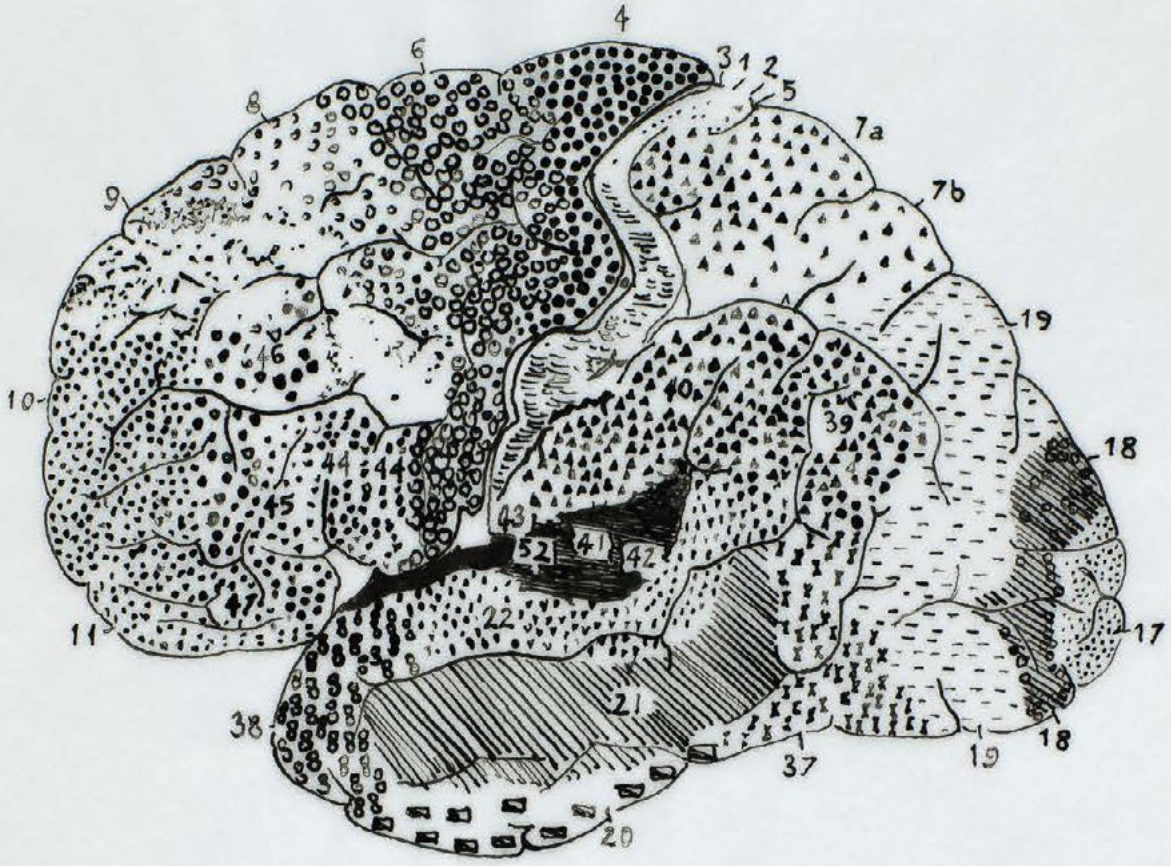
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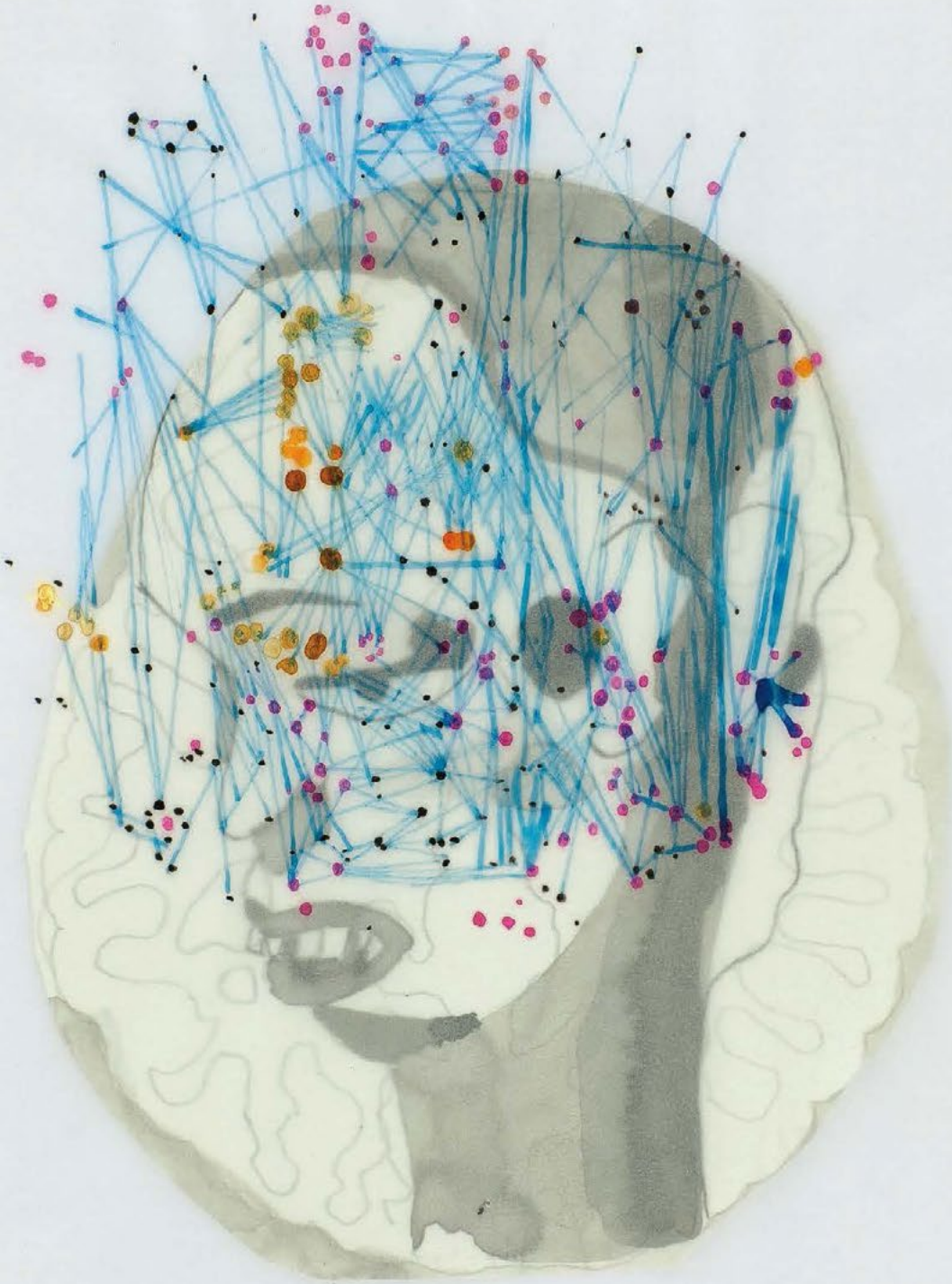
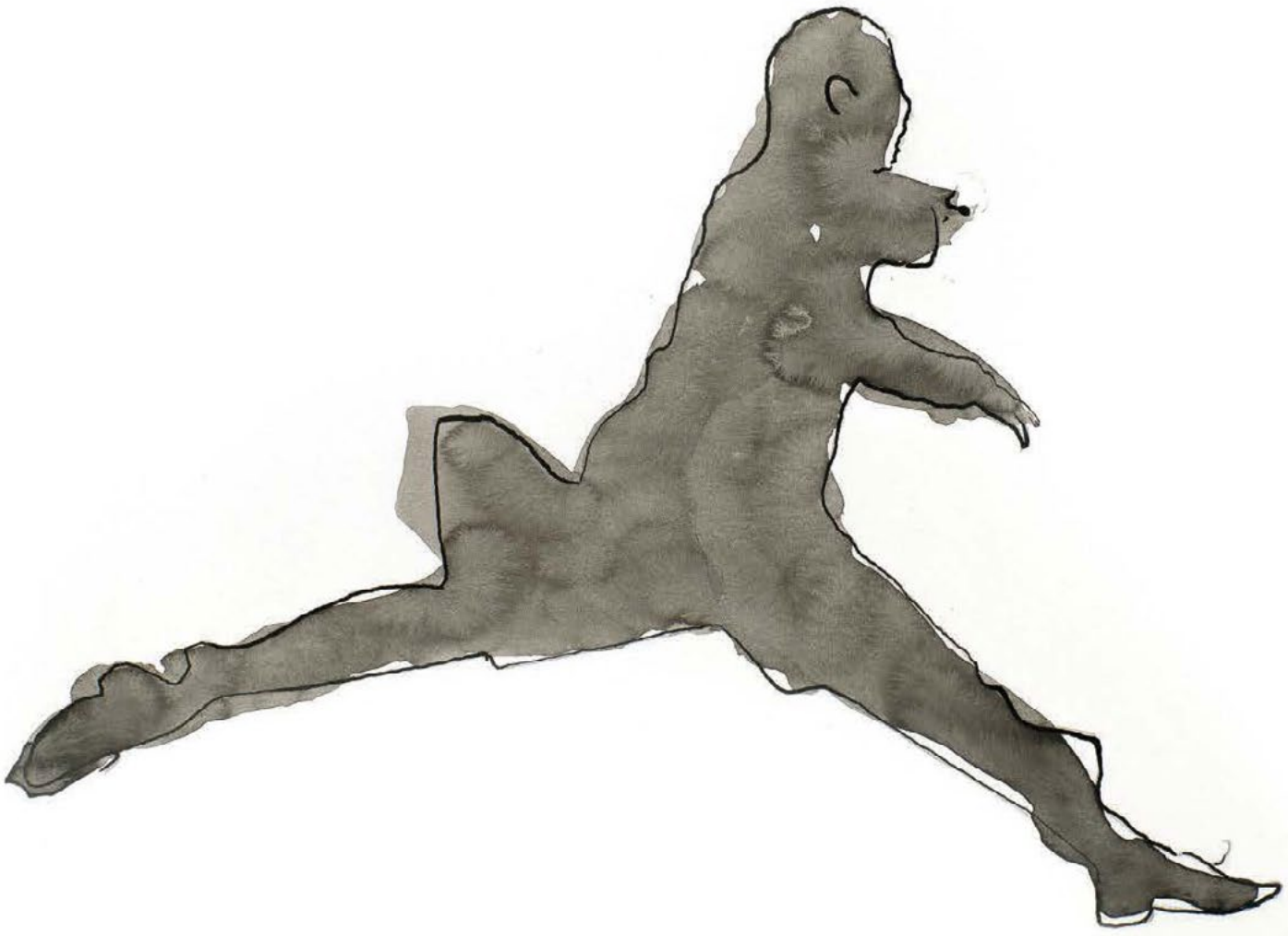
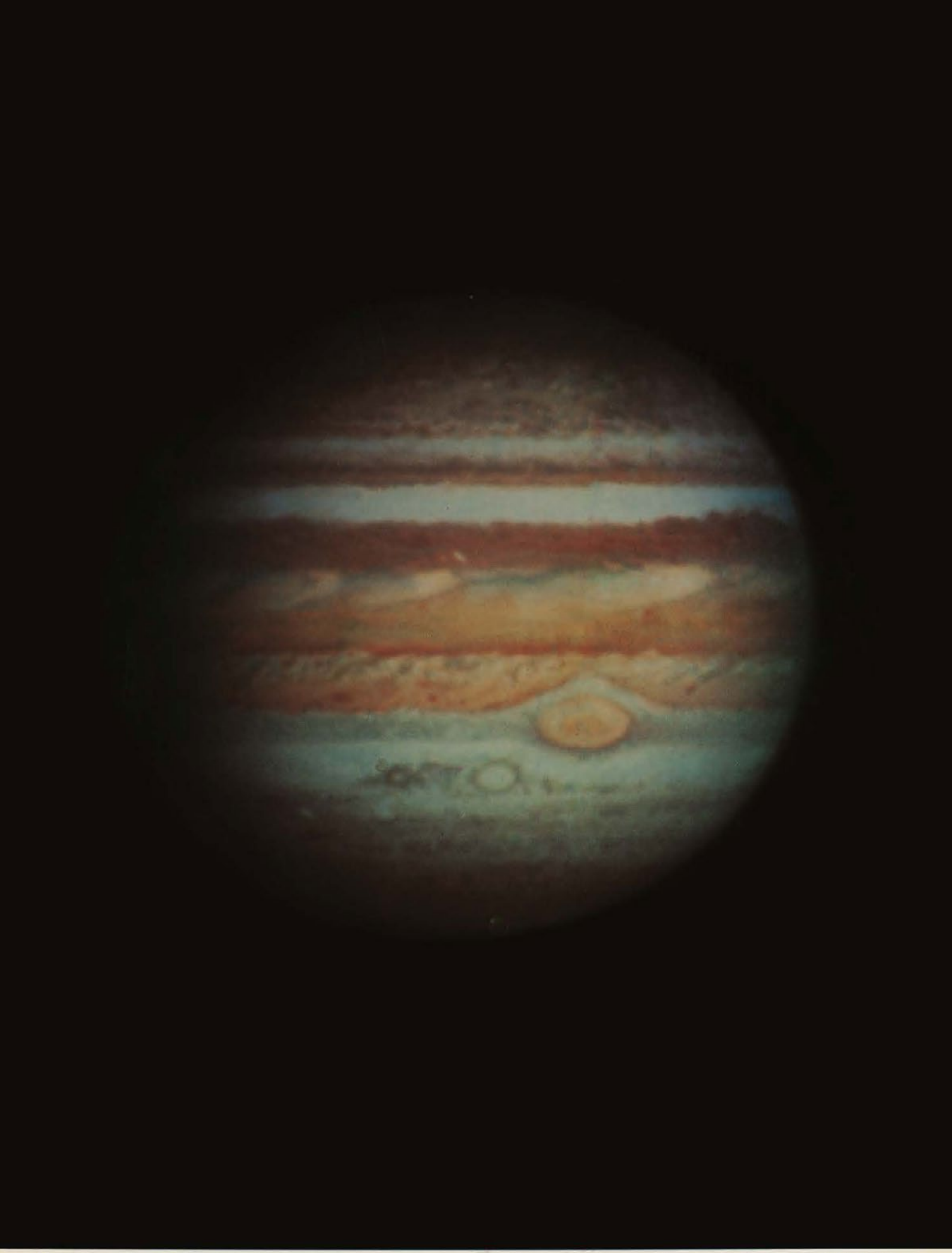
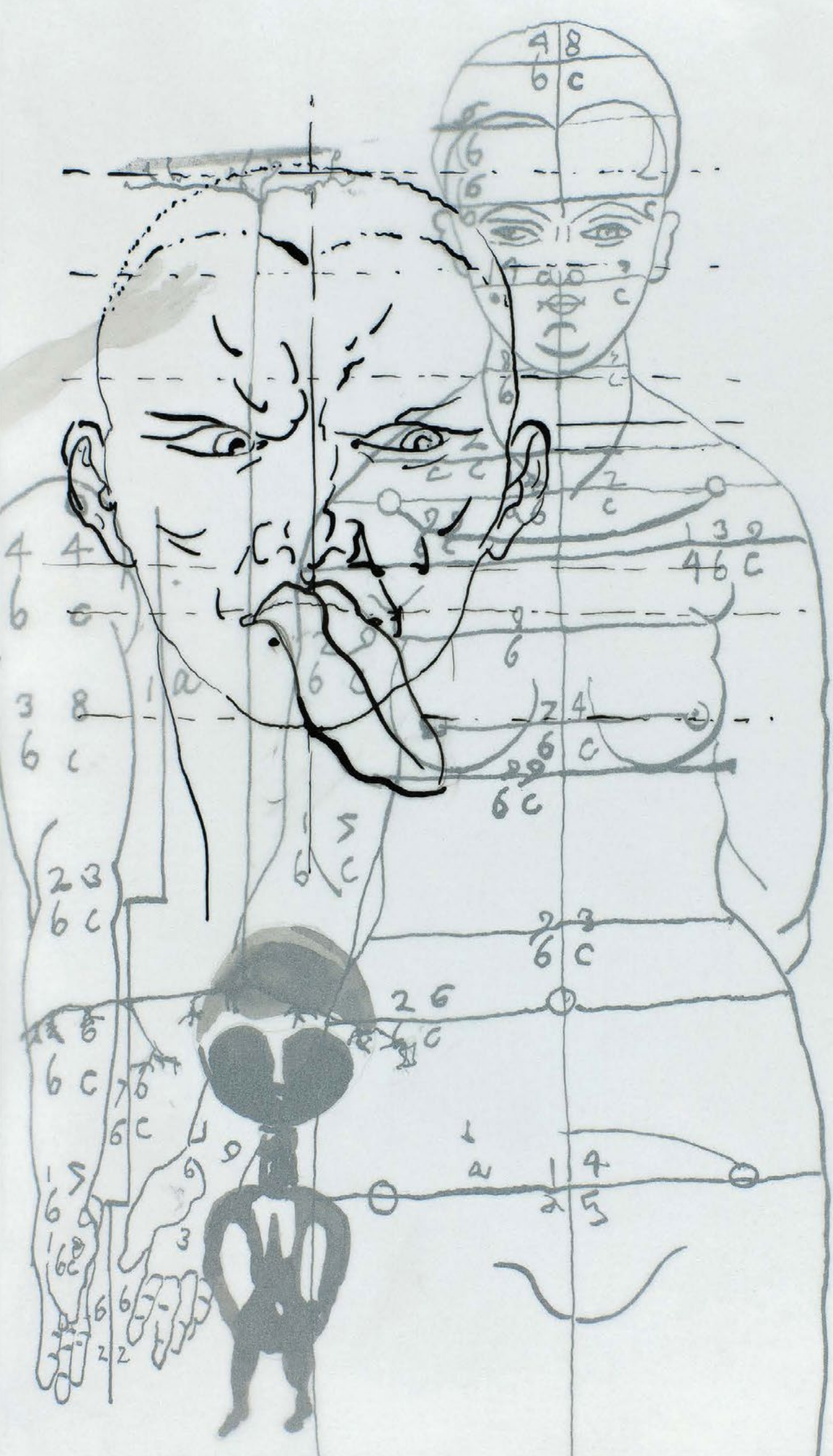


No 15. This is an actual NASA photograph capturing this view of Hurricane Bonnie. Bonnie was located about 500 miles from Bermuda. A large format observation camera, called a Linhof, was aimed through one of the aft flight deck windows. The crew noticed the well defined eye of the hurricane during the late stages of their mission in September 1992.





No 12. This is an actual NASA photograph of Jupiter as taken by the planetary camera of NASA's Hubble Telescope. All features in this image are cloud formations in the atmosphere of Jupiter. Jupiters famous Red Spot, is in fact, an enormous hurricane-like formation, approx 300 years old and close to three times the size of Earth. The photograph, taken on 28 May 1991, was generated in a computer by combining three separate images.

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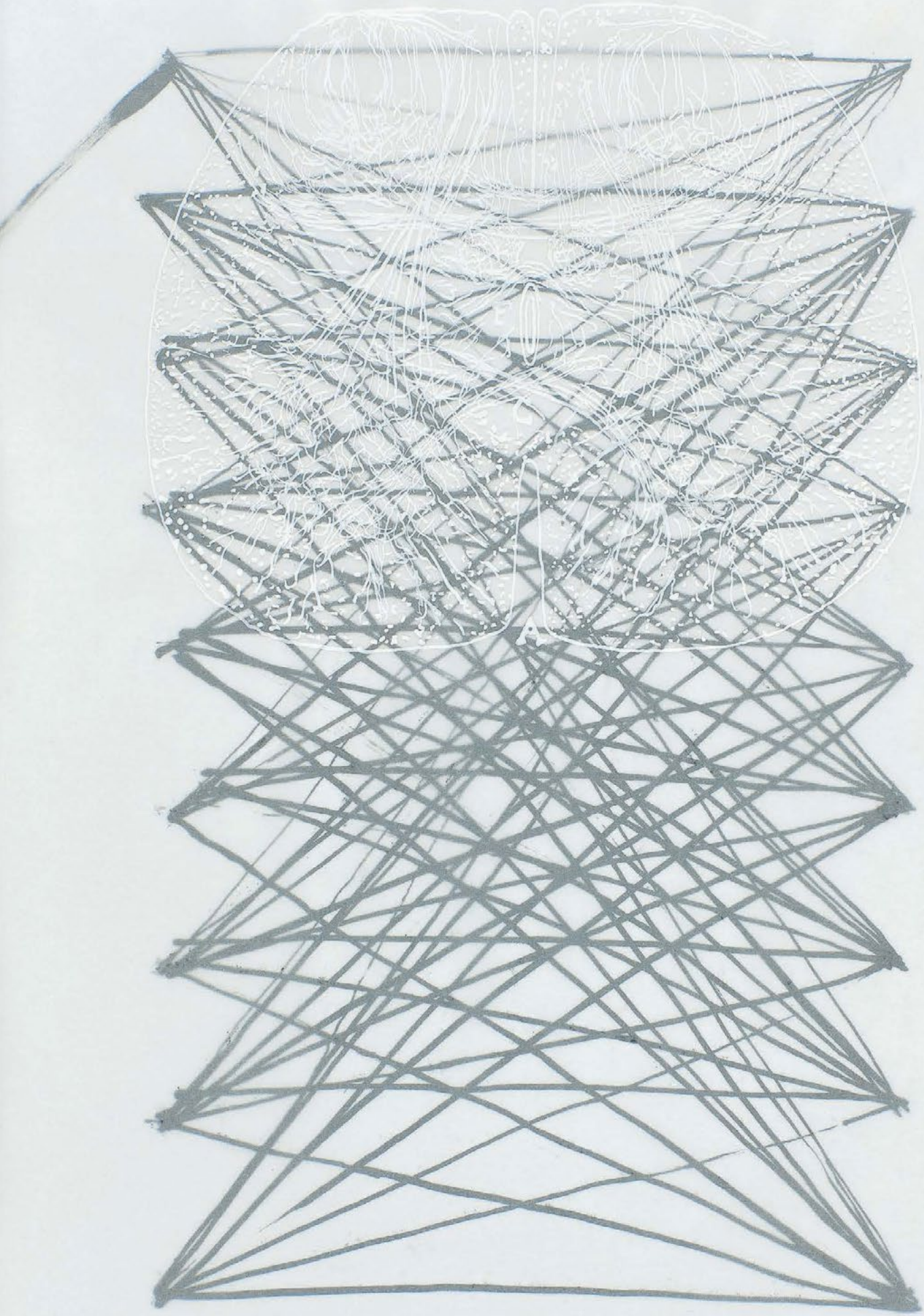

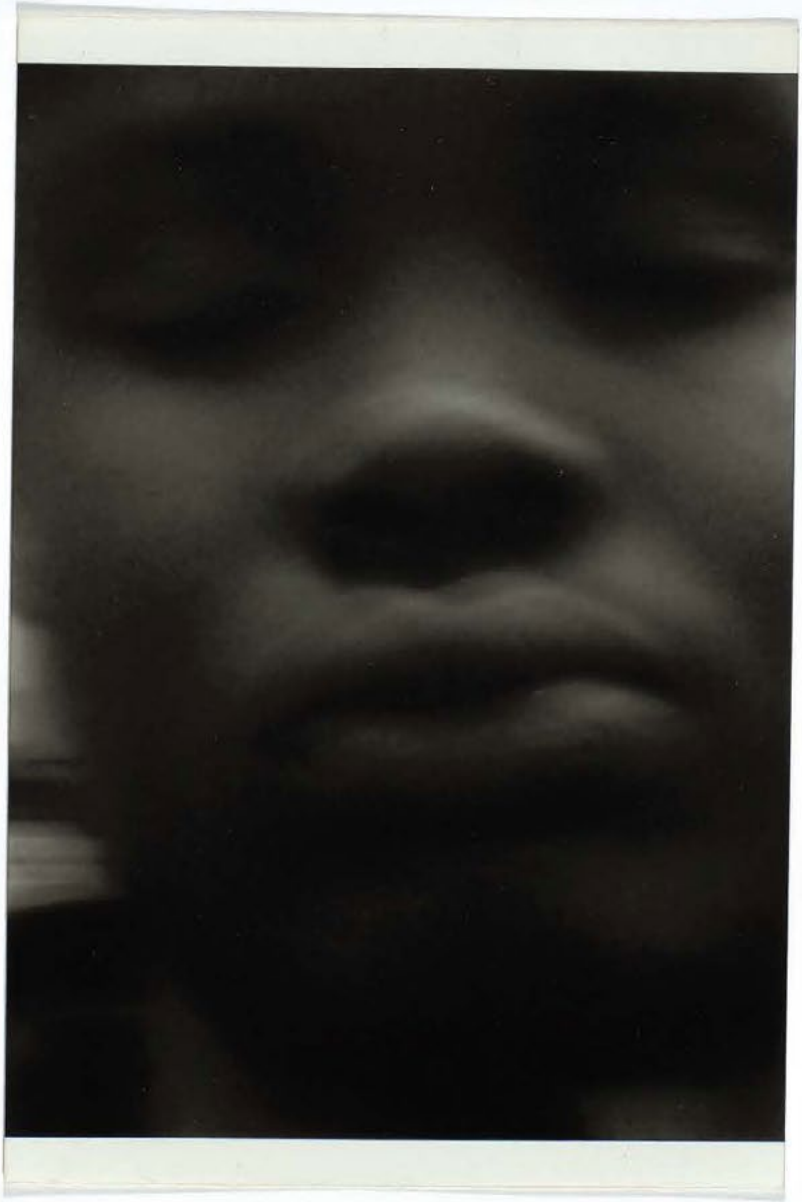

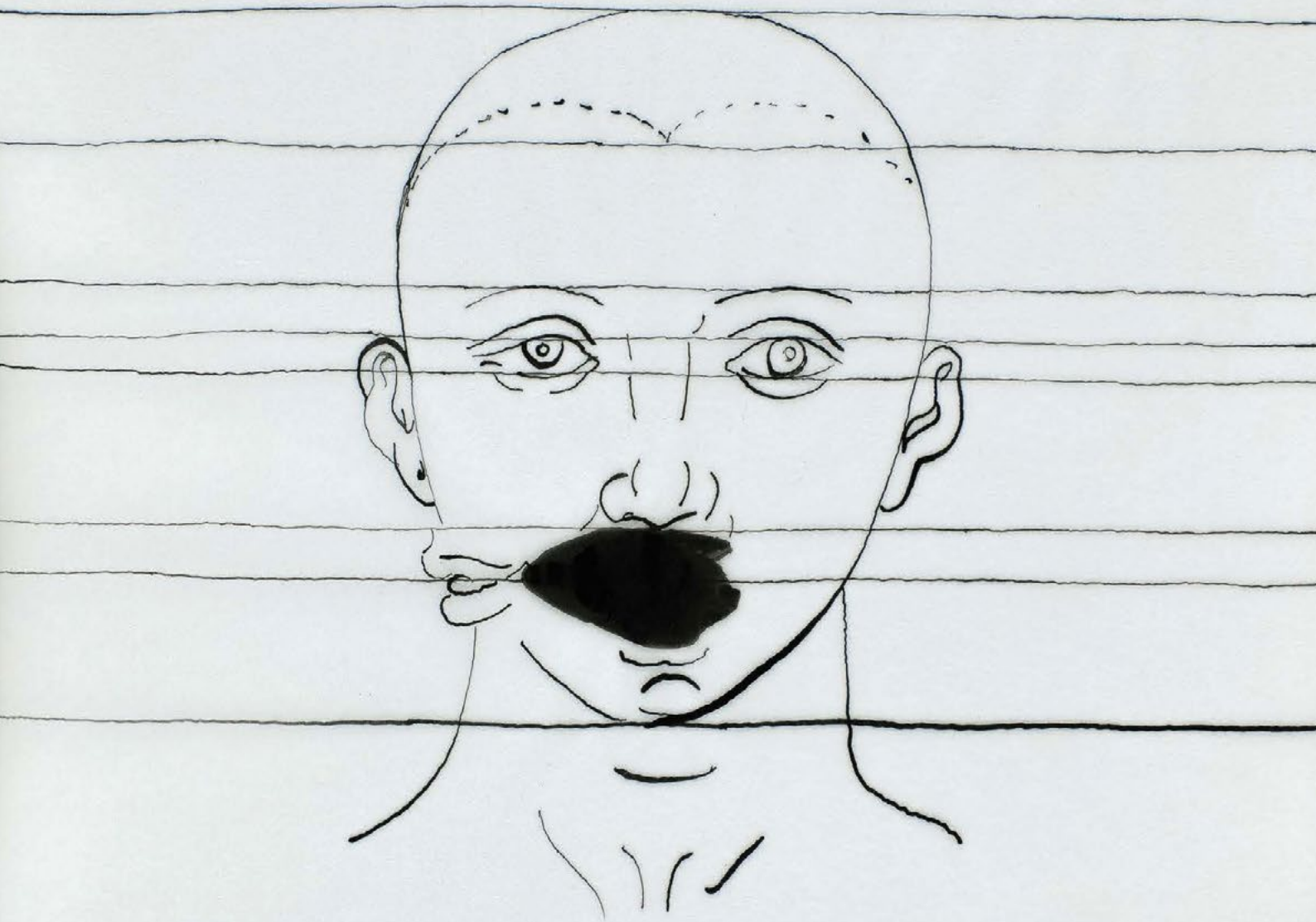

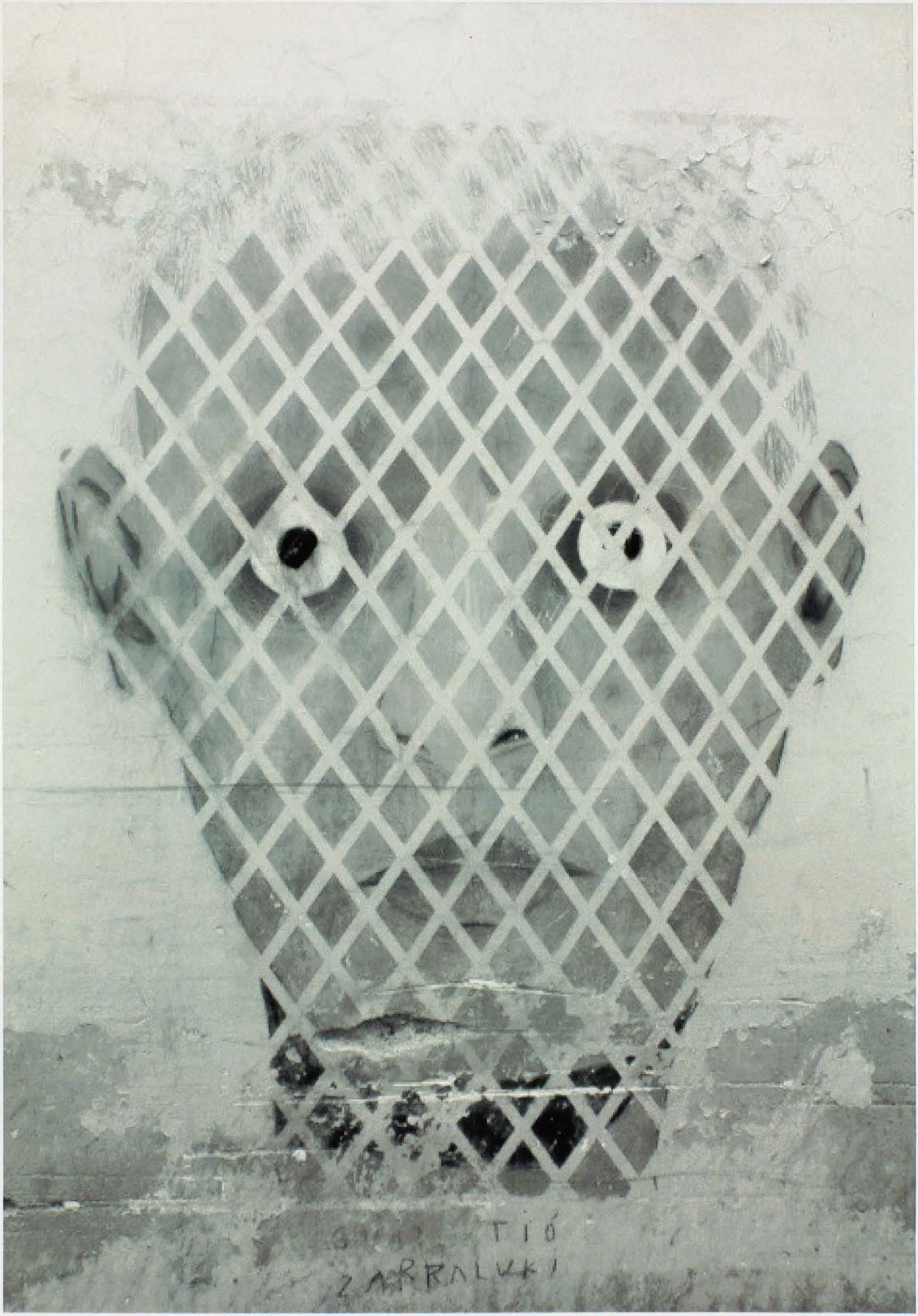
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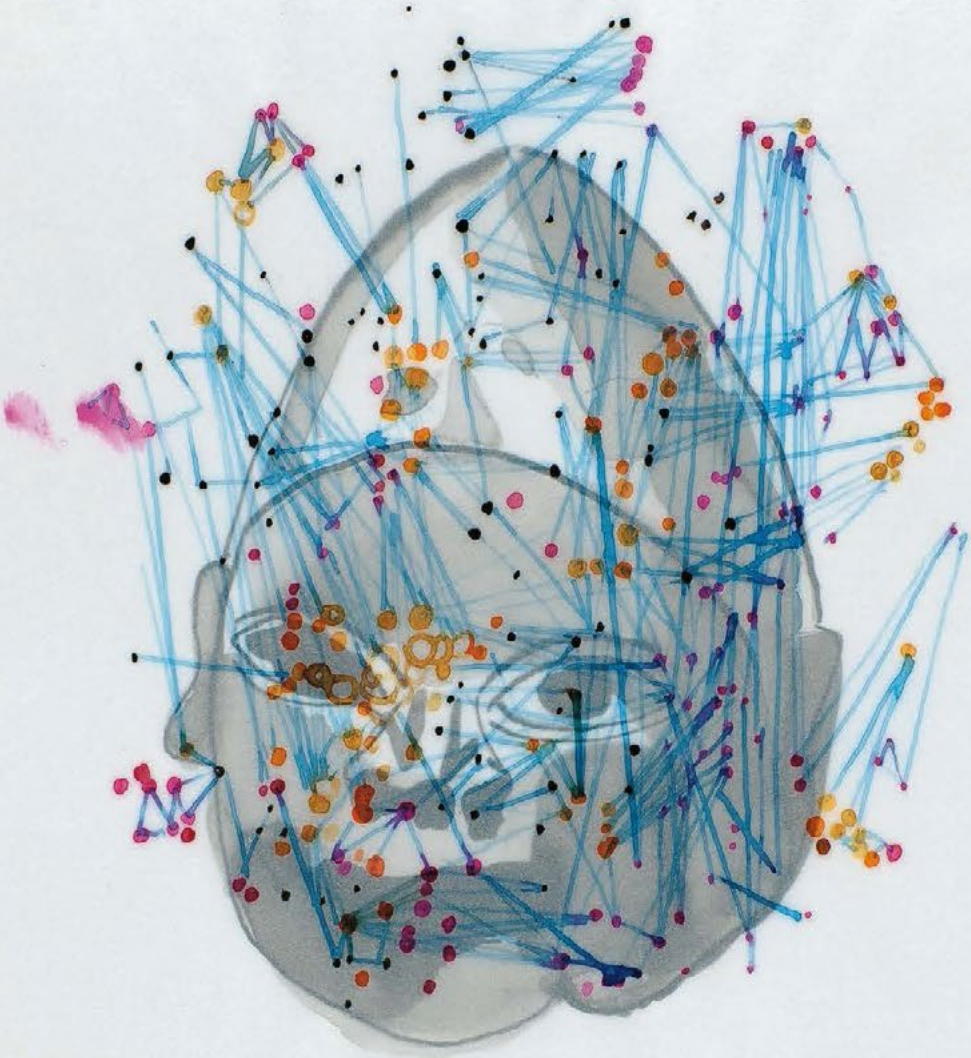

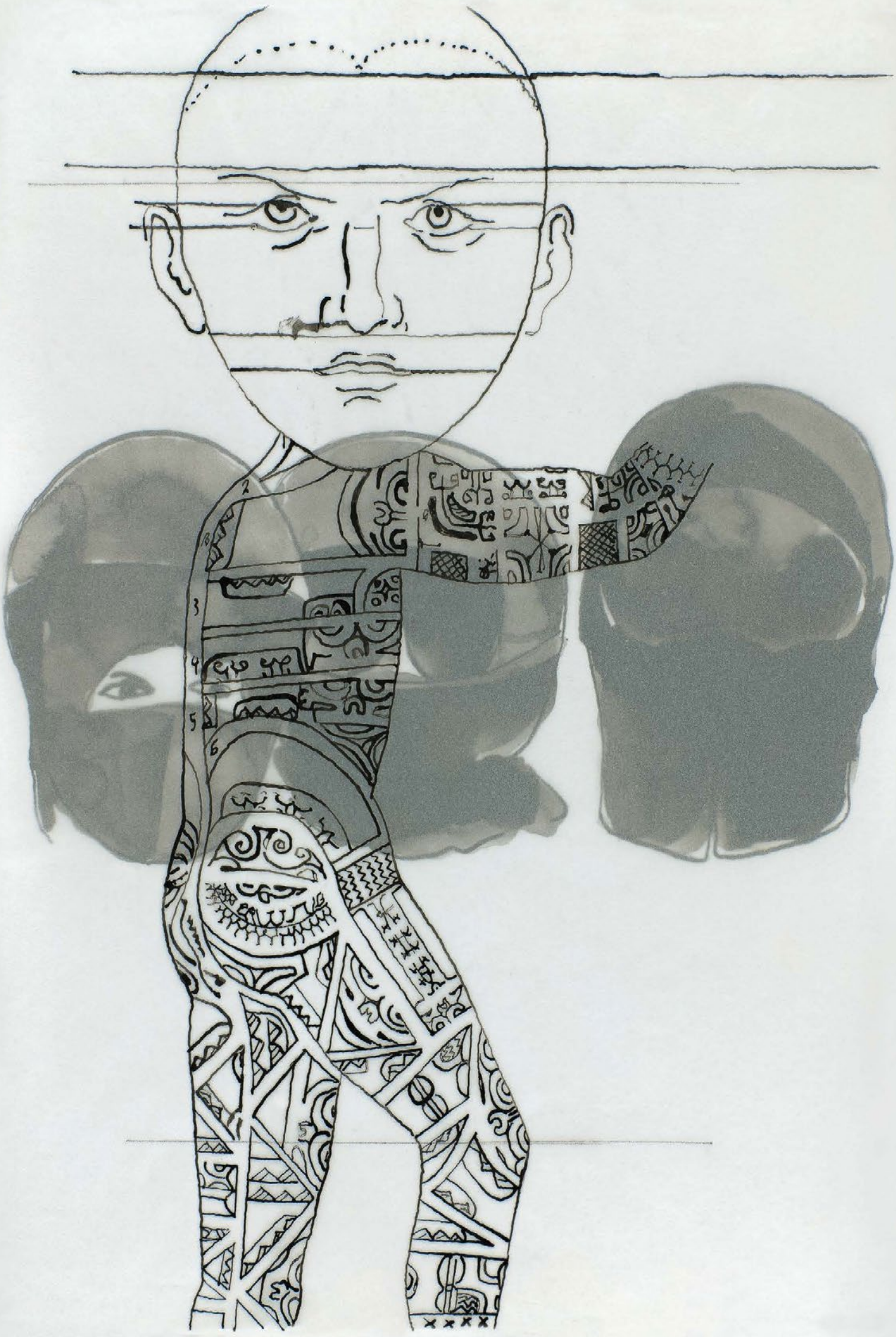

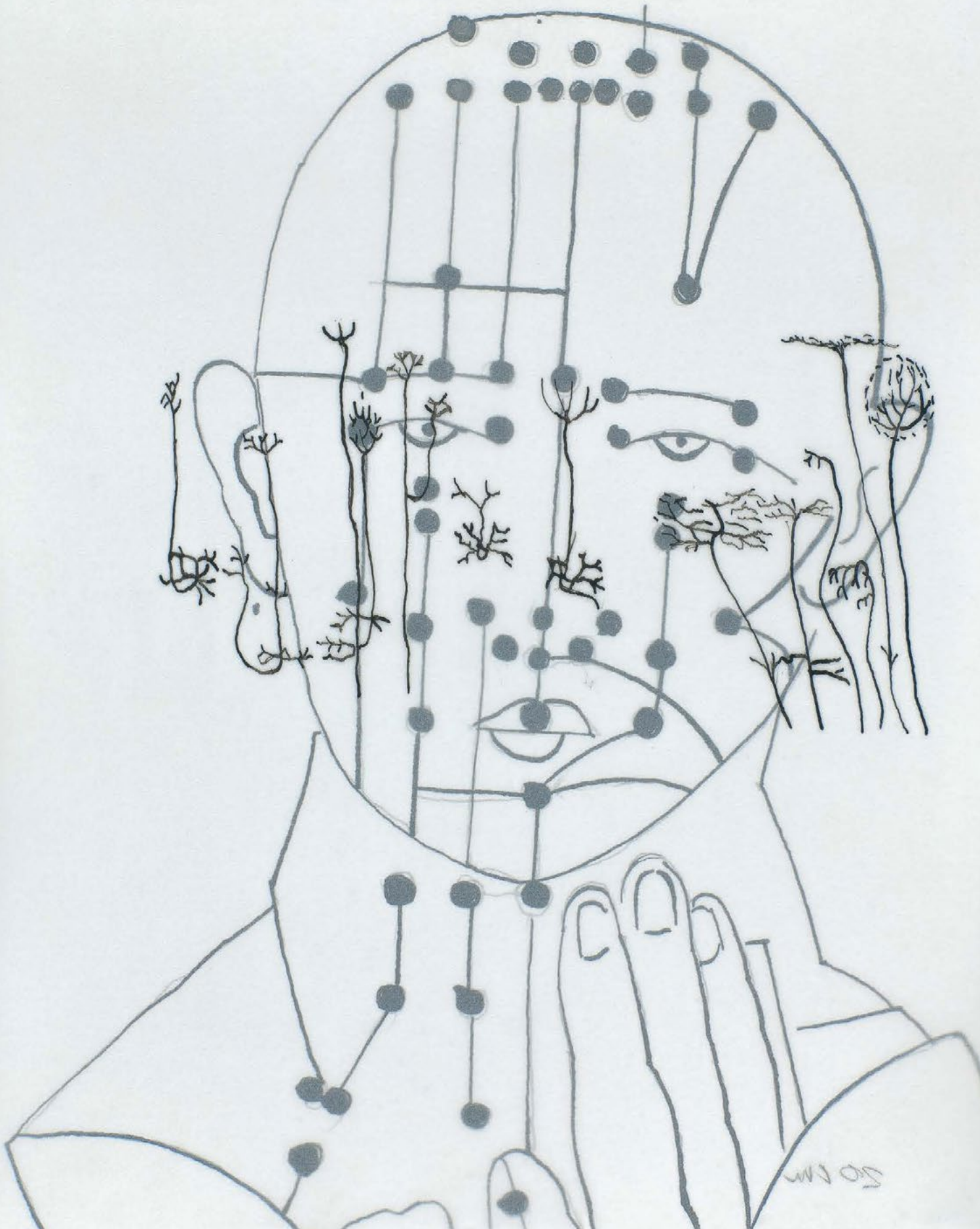

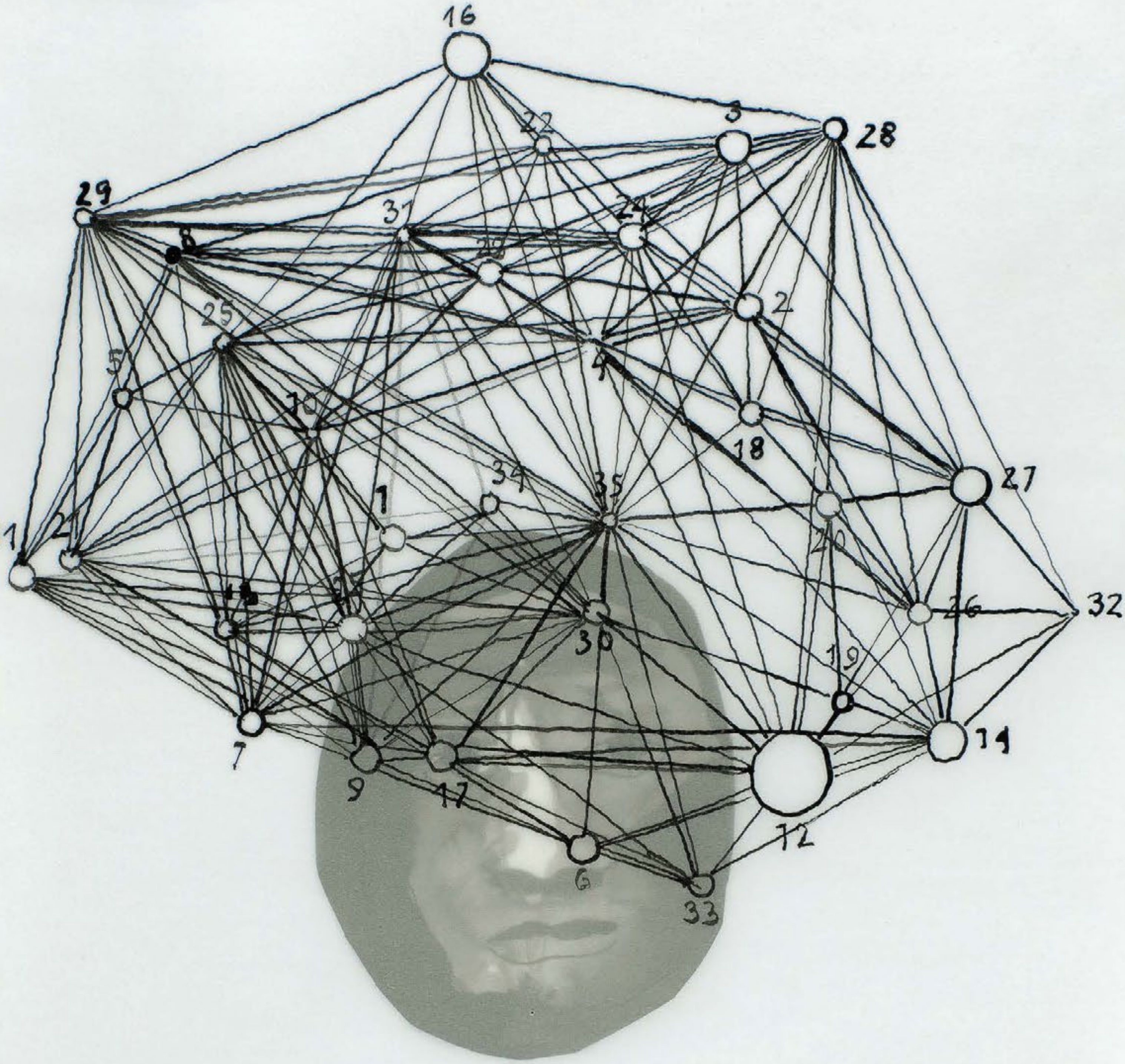
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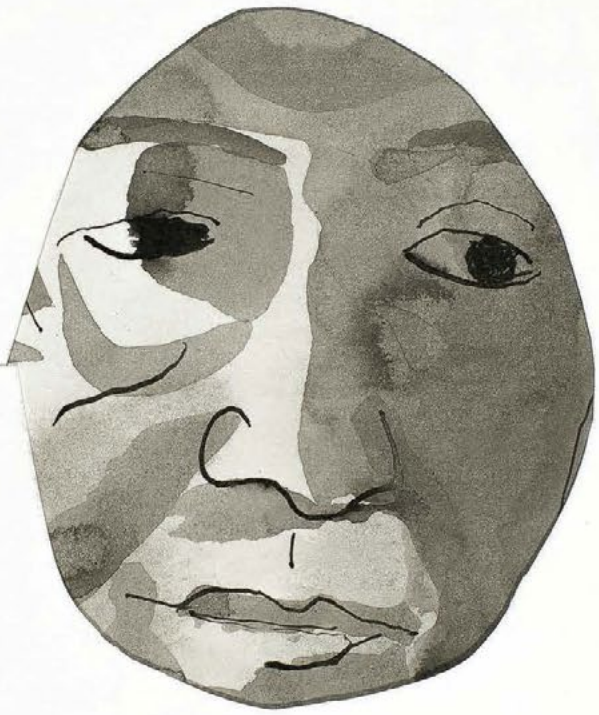

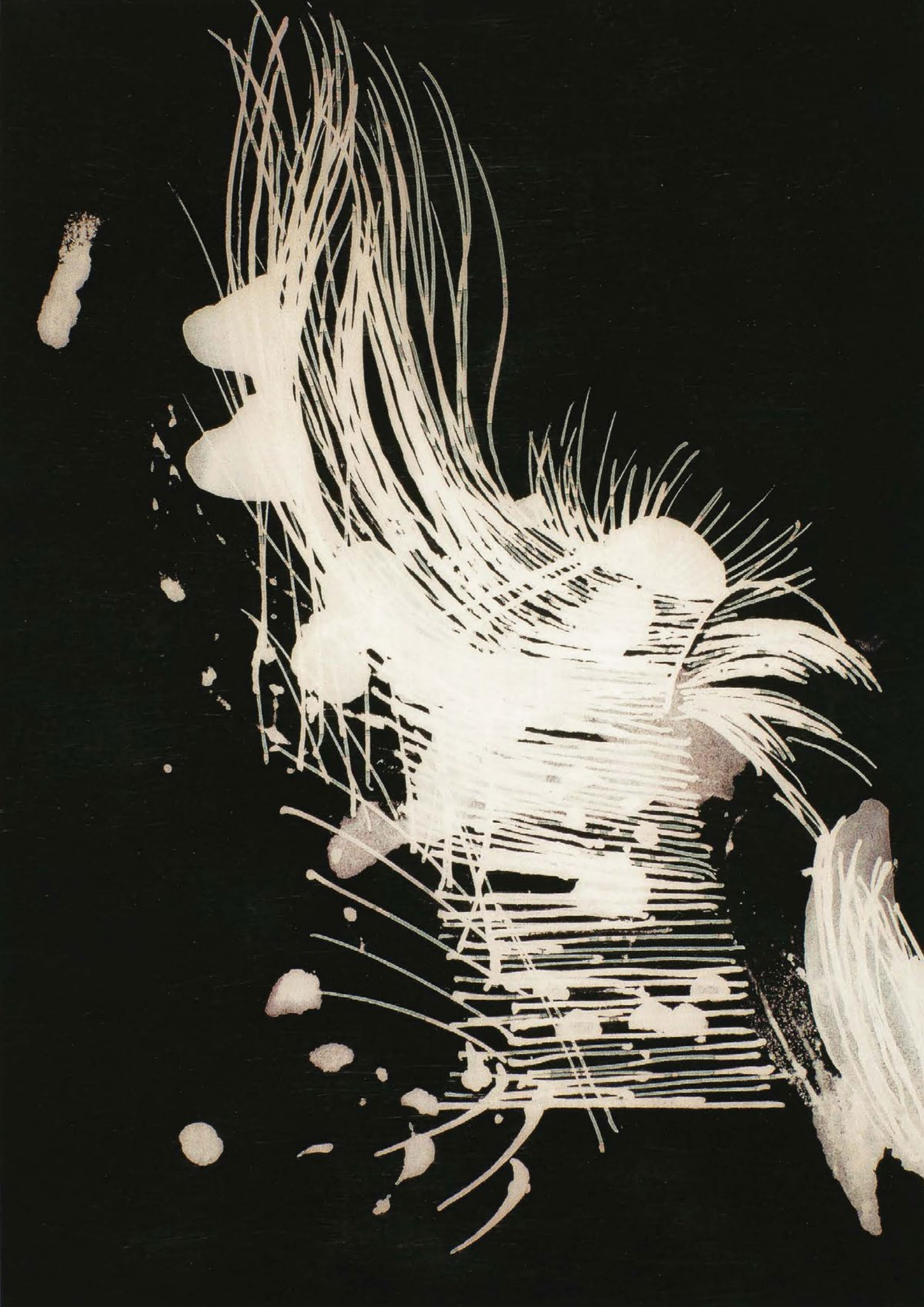

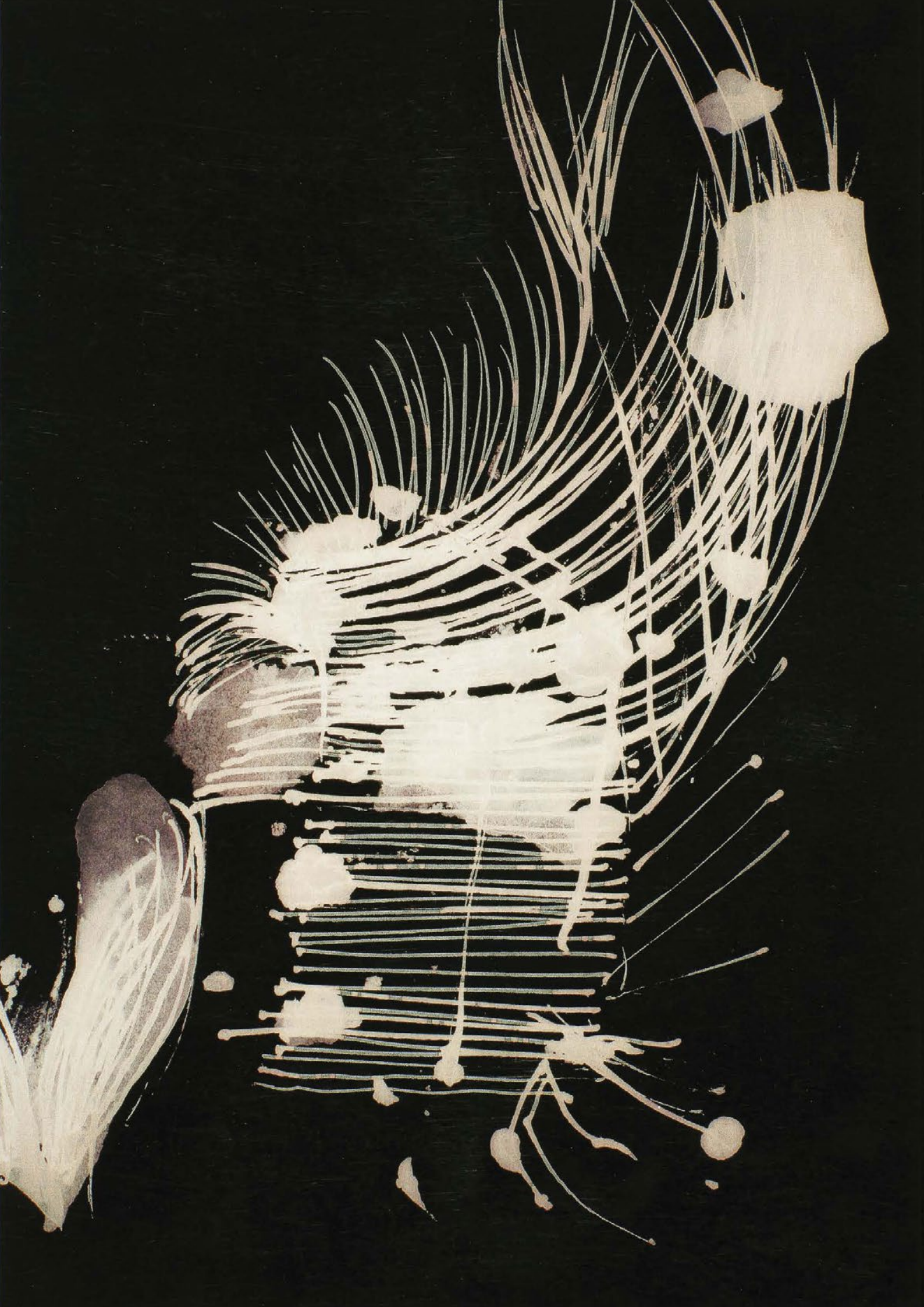

List and maps used in this work

1. Albrecht Dürer, ***Four books on Human Proportion,***
Domenico Nicolini, Venice 1591
(First edition: *Vier Bücher von Menschlicher Proportion,* Nuremberg 1528)

In this work the author investigates the proportion and harmony of the human body by relying on precise geometrical rules. Such principles of harmony and proportion are, hence, reproduced in drawings. Dürer's work is backed with Vitruvian and other empirical studies, and it contains a wide series of illustrated drawings of the human figure. His focus on the four main humors recalls the classical medicine of Hippocrates:

sanguine
choleric
melancholic
phlegmatic

2. Charles Le Brun, ***Caractères des Passions,***
Paris 1667

The atlas of facial expressions was conceived as a study on the visible signs of passion and was shown in occasion of a conference on general and particular expressions by the French royal painter Charles Le Brun at the Royal Academy of Painting and Sculpture of Paris in 1667. From this study I used the sketches of the following emotions:

gladness
astonishment
contempt-hate
scariness
calmness
admiration
attention-assessment
horror
sadnes

3. R.M.Chen, ***Complete acupuncture diagram***

4. Karl von den Steinen, ***Die Marquesaner und ihre Kunst.***
Band I: Tatauierung, D. Reimer (E. Vohsen), Berlin 1925
Maori tattoo pattern
Anthropological study on the body decoration of the Marquesan people, Polynesia

5-6. MAPPING IN NEUROSCIENCE

5. Mapping physiologic information:

5.1. Korbinian Brodmann, *Vergleichende Lokalisationslehre der Grosshirnrinde,* Johann Ambrosius Barth, Leipzig 1909
Brodmann Areas: Comparative map of the 52 areas of the human cerebral cortex, showing the characteristic of cytoarchitectonics
Technique: optical microscope, neuroglial stain Franz Nissl

5.2. Santiago Ramon Cajal, mapping neural structures and connections
Degeneration y regeneraciòn del sistema nervioso, 1913
Textura del sistema nervioso del hombre y de los vertebrados, 1904
Technique: physiological, neuroglial stain Camillo Golgi

6. Mapping with digital computation:

6.1. Human Brain Project, EC, Lausanne 2005
Technique: fMRI, digital computation

6.2. Granger causality in neuroscience
Technique: mathematical modelling

6.3. Human Connectome Project, NIH-USA 2010
Mapping human brain circuitry
Technique: fMRI, MEG, algorithmic computation

7. Small list of idols and divinities,
Metropolitan Museum of Art, New York 2011
Personal photos from the Egyptian, Southern America and Oceanic, and Asian sections

8. Portraits from newspapers, 2014-15
Part of: Katja Noppes, *Archivio III,* Milan 2012

Drawing captions

fig. 1-2 Left and right dominant brain networks, Brookhaven National Laboratory + Ekoi Ejagham head-dress, 19th century Niger, Metropolitan Museum of Art, New York

fig.3 Copt woman demonstrating against lapidation of Meriam Ibrahim, Sudan 16.09.14

fig.4 Laminar organization of the primary visual cortex, K. Brodmann 1909

fig.5 Doctor fighting Ebola, Sierra Leone Sept.14

fig.6 Three-faced Kuyu sculpture, 19th century Congo, Metropolitan Museum of Art, New York

fig.7 Reconstructed structural brain network-lateral, P. Hagmann

fig.8 Ekoi Ejagham head-dress, 19th century Niger, Metropolitan Museum of Art, New York

fig.9-10 Protein mapping, Project Human Proteome, N. Kelleher, Northwestern University 2011

fig.11 Rosetta's detach from Philae, landing on comet 67/P, Churyumov-Gerasimenko 13.11.14

fig.12 Votive figurine, carved ivory, ca. 3000 b.c. Mesopotamia, Metropolitan Museum of Art, New York

fig.13 Albrecht Dürer 1591 + fertility figure bronze, 19th century Ghana, Metropolitan Museum of Art, New York

fig.14 Pygmy man, Bacu 14.10.14

fig.15 Nib discard while drawing

fig.16 Reconstructed structural brain network, axial, P. Hagmann

fig.17 Burkina Fasu, 19th century Bateba, Metropolitan Museum of Art, New York

fig.18 Copt woman demonstrates against lapidation of Meriam Ibrahim, Sudan 16.09.14

fig.19 Albrecht Dürer 1591

fig.20 Ekoi Ejagham head-dress, 19th century Niger, Metropolitan Museum of Art, New York

fig.21 Marathon, 344mg/m3, PM 2.5, 19/10 , Bejing 19.11.14 + Rubina, Pakistan 02.06.14

fig.22 Network representation of brain connectivity-lateral, P. Hagmann + Chokwe Mwana Pwo head-dress, 19th century Central Africa, Metropolitan Museum of Art, New York

fig.23 Samantha Cristoforetti, space mission: Soyuz TMA-15M, 24.11.14

fig.24 Jerusalem 05.11.14

fig.25 Astonishment, C. Le Brun, 1698 + Syrian refugee, Bab El Salam 23.09.14

fig.26 Syrian refugee, Bab El Salam 23.09.14

fig.27 Cytoarchitecture of cerebral cortex, K. Brodmann 1909

fig.28 Granger causality mapping-autism + Ekoi Ejagham head-dress, 19th century Niger, Metropolitan Museum of Art, New York

fig.29 Comprehensive map of neuronal connections via DTI-sagittal, T. Schultz

fig.30 Copt woman demonstrating against lapidation of Meriam Ibrahim, Sudan 16.09.14

fig.31 Portrait L.S.

fig.32 N.A.S.A. Hurricane Bonnie 1992

fig.33 L'uomo che corre

fig.34 N.A.S.A., Jupiter 28.05.1991

fig.35 Albrecht Dürer, 1591 + fertility figure, 19th century Ghana, Metropolitan Museum of Art, New York + Hate, C. Le Brun 1667

fig.36 3D glasses, landing of Philae 13.11.14

fig.37 Hindu divinity, 16th century India, Metropolitan Museum of Art, New York + Albrecht Dürer 1591

fig.38 Kamasutra bass-relief, 16th century India, Metropolitan Museum of Art, New York

fig.39 Albrecht Dürer, 1591 + fashion advertisement Autumn 2014

fig.40 Fashion advertisement Autumn 2014

fig.41 Ekoi Ejagham head-dress, 20th century Niger, De Young Museum, San Francisco + lateral cytoarchitecture of the cerebral cortex, K. Brodmann

fig.42 Photo portrait subway, New York 2011

fig.43 A. Koelliker, Elements d'histologie humaine, Paris 1816

fig.44 R. Cajal, neuronal fibers-spinal axes 1906 + A. Kirchner, Ars magna sciendi "Universal diagram of the expression of questions about all possible matter", Amsterdam 1669

fig.45 Portrait photo subway, New York + Mistrust, C. Le Brun 1667

fig.46 Sit-in protest, Nasr City Cairo 28.07.13

fig.47 Demonstration 'Occupy Central', Hong Kong 29.09.14

fig.48 Happiness, C. Le Brun 1667 + Ibrahim Sayane recovered from Ebola, Sierra Leone 15.03.14

fig.49 Portrait photo subway, New York 2011

fig.50 Calm-happiness, C. Le Brun 1667

fig.51 Massacre in the University Campus Garissa, Kenya 2.04.15

fig.52 Street art, Marrakech 2015

fig.53 Syrian refugee, Bab El Salam 23.09.14

fig.54 Granger causality mapping control + Yoruba head-dress, Benin 1930, Metropolitan Museum of Art, New York

fig.55 Protest in Cremona 24.01.15 + Kahi Hanaupe, K. Von den Steinen, 1925 + Attention, C.Le Brun 1667

fig.56 Barbara Urslerin, freak, Germany 1629

fig.57 Acupuncture diagram-facial + Neuronal fibers

fig.58 Tripoli, Autumn 2014

fig.59 Three-faced Kuyu sculpture, 19th century Congo, Metropolitan Museum of Art, New York

fig.60 Granger causality mapping-left + Pygmy man

fig.61 Constitutional Referendum about the self-rule of Donetsk and Luhansk, Ukraine 25.10.14

fig.62 Oculus Rift Viewer, 12.14

fig.63-64 Wiring diagram mapping neural connections, HCP