TYPP#8 Blind Spot

The human eye is designed with a flaw that is common to all other vertebrates: we have a blind spot, the *punctum caecum*, a small patch on the inside of our boisterous orbs of vision with no photoreceptors. A blind spot can also be psychological or social. We tend to be biased towards situations or people we cannot fully 'see through'. How can we enlighten our blind spots? What kind of artistic practices can inspire new readings of history, art, music, even politics?

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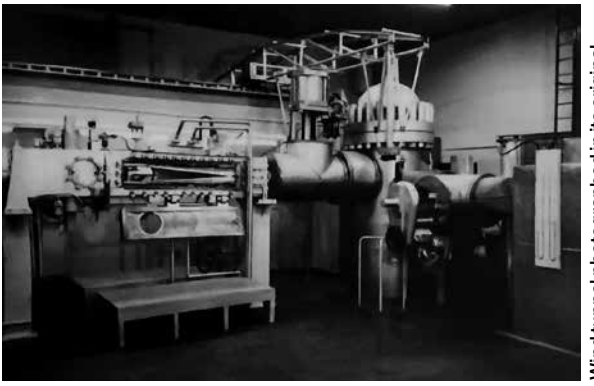
Haseeb Ahmed dived into the scientific and political history of the Peënemunde wind tunnel, a machine developed to experiment with the highest possible speeds. It was designed by and for military scientists in Nazi Germany. After the war, the machine was moved to the US, along with the same scientists who created weapons of war and who would later be at the foundation of NASA and the American space race. Ahmed created a scroll drawing of this machine and shows its purpose as a contemporary artefact of the future, revealing the dark patches of our history.

HASEEB AHMED

The Peenemünde Scroll

RUBBING HISTORY

The Peenemünde scroll depicts a scene that connects the history of WWII to the present day, from the most destructive act in humanity by Nazi Germany to Western society's greatest endeavour, the Moon landing. The scroll, a four-metre-long drawing, reveals how contingent technology is upon desire and the ambivalence we ought to have towards it. The drawing itself is a rubbing — a documentation technique used in archaeology and engineering — of the world's first hypersonic wind tunnel. Wind tunnels are tubes in which scientists replicate the interaction between air and objects that fly through it. I discovered the scroll at the NATO von Karman Institute for Fluid Dynamics (VKI), one of Europe's oldest and largest aeronautic research facilities, while conducting my 'Wind Egg Experiment' (2014–18).[1] The VKI was founded as the *Belgian Service Technique de l'Aéronautique* in 1922.



Wind tunnel photographed in its original situation at the top-secret Nazi Peenemünde Army Research Centre, Germany. Courtesy of the von Karman Institute for Fluid Dynamics.

Rubbing as a technique was originally used to document architectural remains that could not be transported. This technique was best suited to register the wind tunnel, because nothing can be removed from the VKI for reasons of industrial espionage and security. The rubbing made it possible to show what is otherwise hidden and to represent the entire research institute. It turns the wind tunnel into an anachronism, so we can see the technology and its operational context from a new perspective. Wind tunnels belong to the engineering field of aeronautics, which is called upon first by the military, with their exponentially larger-scale budgets and internal competition that consistently translates into the ever-increasing velocity of their equipment.

The circular elements seen in the rubbing are the Peenemünde wind tunnel's windows, beyond which speeds five to eight times faster than that of sound can be measured while the observer is standing still. These speeds are achieved by compression. A large volume of air is pushed past the narrow opening of the wedge shape, forcing the air to compress and accelerate to exit the tunnel. This process is similar to releasing balloons before they are tied: the air at their nozzle sends them flying flatulently.

OPERATION PAPERCLIP

The wind tunnel originates from the once top-secret Nazi research facility located in the Baltic coastal city of Peenemünde, Germany, where the V-2 rocket was developed. Effectively the world's first modern rocket, it was used heavily during the Battle of Britain. After their victory, the US and USSR agreed to split equally between them the scientists and facilities that worked on Nazi Germany's V-2 rocket in order to set up their own space programmes. Operation Paperclip was the name of the move to transport the Peeënemunde wind tunnel to NASA facilities in the US. The most notable V-2 scientist involved in Operation Paperclip was Wernher von Braun, who later would lead the Apollo missions and would help with the smooth landing of Apollo 11 on the moon (Wegener, 1996).

Wernher von Braun was among a famous group of rocket experimenters in Germany in the 1930s (second man on the right).

Wernher von Braun, director of Marshall Space Flight Center from 1960 to 1970 © NASA/MSFC.

No charges of war crimes were ever filed for von Braun's involvement in the creation of a deadly war weapon for Nazi Germany. Instead, one of the highest awards for scientific achievement in aeronautics in the US today, the National Space Society's award, is still named after von Braun.

During the post-war period, the VKI was also re-founded to integrate objective scientific advances made by both the Allies and the Axis Powers during World War II. In 1958 Bob Korkegi and Theodor von Karman, the joint US directors of the von Karman Institute, brought the wind tunnel back to the Institute and thus back to European soil, where it was used for research purposes until the 1980s.

TURBULENT PHOTOGRAPHY

After the Allied forces bombed the Nazis' once top-secret Peenemünde Army Research Center in 1943, all research facilities, including the Peeënemunde wind tunnel, were moved to another secret base in the Bavarian town of Kochel. Just before the dismantling of the wind tunnel for Operation Paperclip, however, scientist Siegfried Erdmann conducted and photographed the first Mach 9 test. A Mach, named after Austrian physicist and philosopher Ernst Mach, is the speed of sound. Hence, Mach 9 is nine times the speed of sound.

First Schlieren photograph (photography of the flow of fluids in various densities) of a test conducted at nine times the speed of sound in this wind tunnel, made by scientist Siegfried Erdmann in 1944.

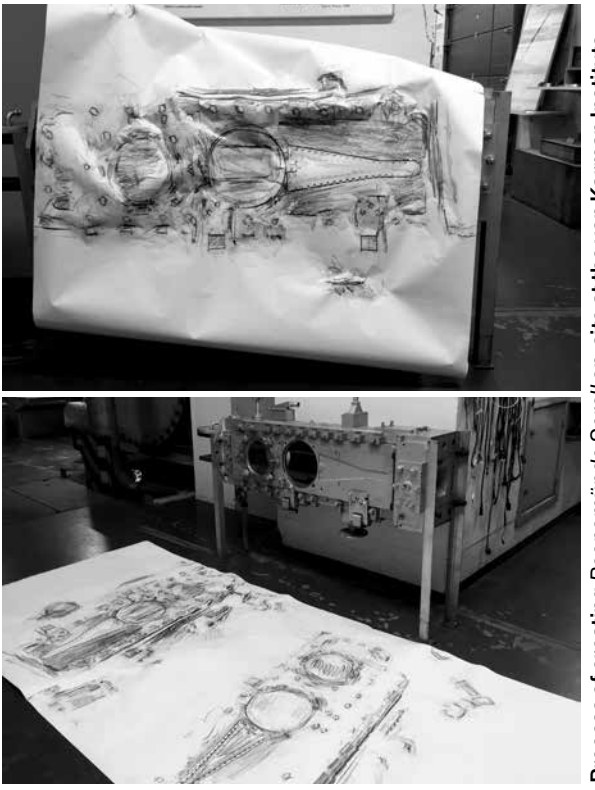
Air turbulence at these speeds becomes visible to the naked eye. Shockwaves compress the air into dense areas that absorb more light. Schlieren photography, also known as the shadowgraph, captures these shockwaves on film, making it possible to visually record these immense speeds. Paradoxically, one observes and photographs these speeds in a controlled section from a fixed position in front of the wind tunnel.

After the wind tunnel was moved to the US in 1958 during Operation Paperclip, the many Nazi scientists who moved with it founded the American space programme and contributed to the country's ballistic systems.

MAKING (IN) THE PRESENT

Thanks to my collaboration with the von Karman Institute for Fluid Dynamics, where I conducted the research for the 'Wind Egg Experiment', I gained access to the Peenemünde wind tunnel. Today, the wind tunnel is reduced to an artefact without an audience but surrounded by its kin: more advanced contemporary wind-tunnel technology. The drawing on

the scroll was made using the archaeological rubbing technique. A large paper is placed directly on the surface before being rubbed with graphite. It is a direct representation that contrasts the machine's goal to render the movement of fluids going at great speeds through the tunnel in photographic images. The rubbing has a direct relation with the object it represents. The scalar fluids used in the process make it seem as though the wind tunnel lends itself to be photographed.



Process of creating *Peenemünde Scroll* on-site at the von Karman Institute for Fluid Dynamics, Rhode-Saint-Genèse, Belgium.

An expanded practice in my work is something that I call 'bracketing'. The word is appropriated from the vocabulary of digital photography, where 'bracketing' refers to an image derived from one overexposed and one underexposed photograph. By bringing together the seemingly opposite or only remotely related elements, I hope to chart our fleeting present into a visible image and make it more graspable.

Tatsuya Inuikawa, Brussels-based traditional book binder, working on the Peenemünde Scroll in his studio.

The process of rubbing, however, can damage the surface of the paper. To protect the scroll, the drawing was stabilized and mounted on linen by hand by the Brussels-based traditional book binder Tatsuya Inuikawa. Inuikawa treated the drawing with techniques inspired by traditional Japanese scrolls. Traditionally, Japanese scrolls were made to show different pictorial lengths at different moments of the year. It therefore seemed suited to lend the temporality associated with these techniques to the new artwork of the wind-tunnel drawing.

The scene on the scroll depicts the destruction of humanity, on the one hand, and the promise of our human particles spreading in-between the stars, on the other. What we see is a visualization of speed faster than sound through a seemingly ancient record. This confusion between past and future should raise the question: from what place or what moment in time are we taking a vantage point to see ourselves?

1. 'The Wind Egg Experiment' is an art project designed to fulfil the ancient conception that animals and people could reproduce through the wind, like plants. From 2014 to 2018, I used cutting-edge wind-tunnel technology at the VKI to speculate about the possibility of using technology in assisting the transformation of our relations to and with nature, family and gender roles.

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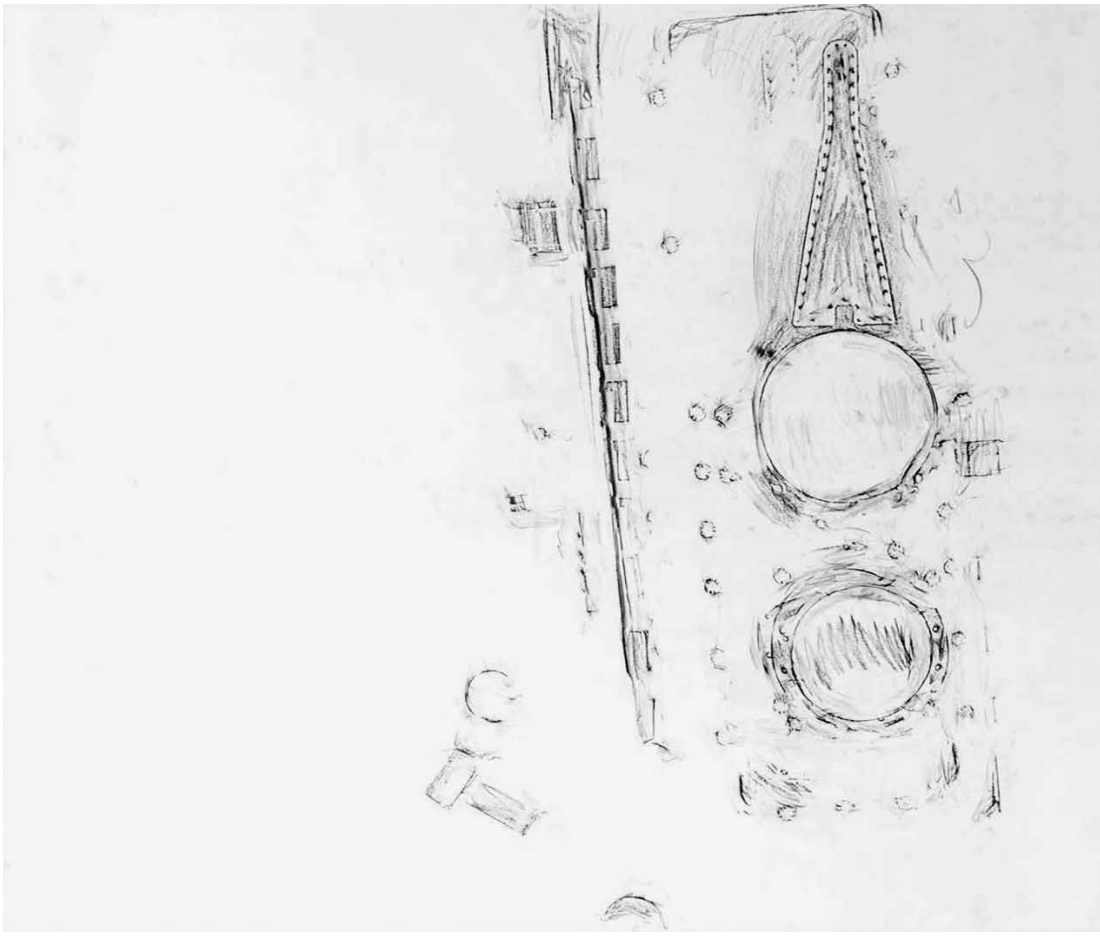
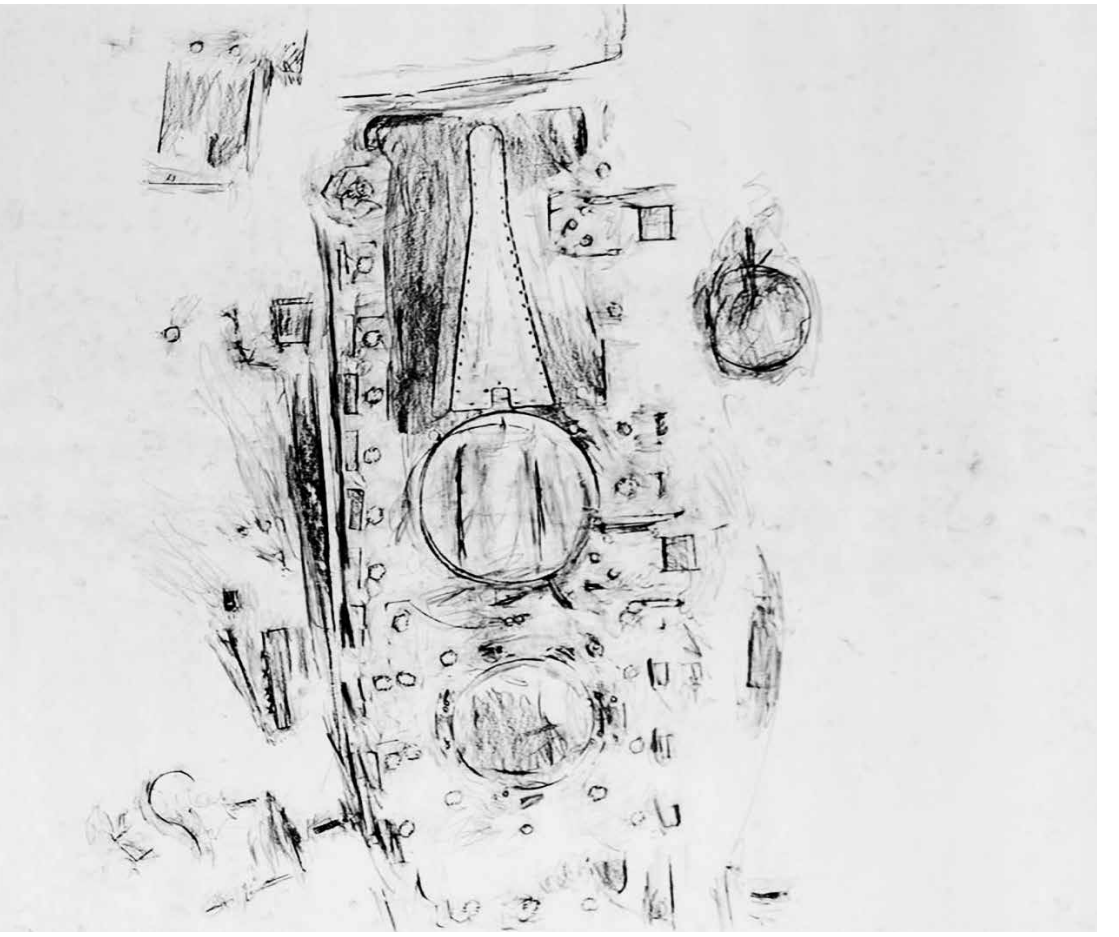
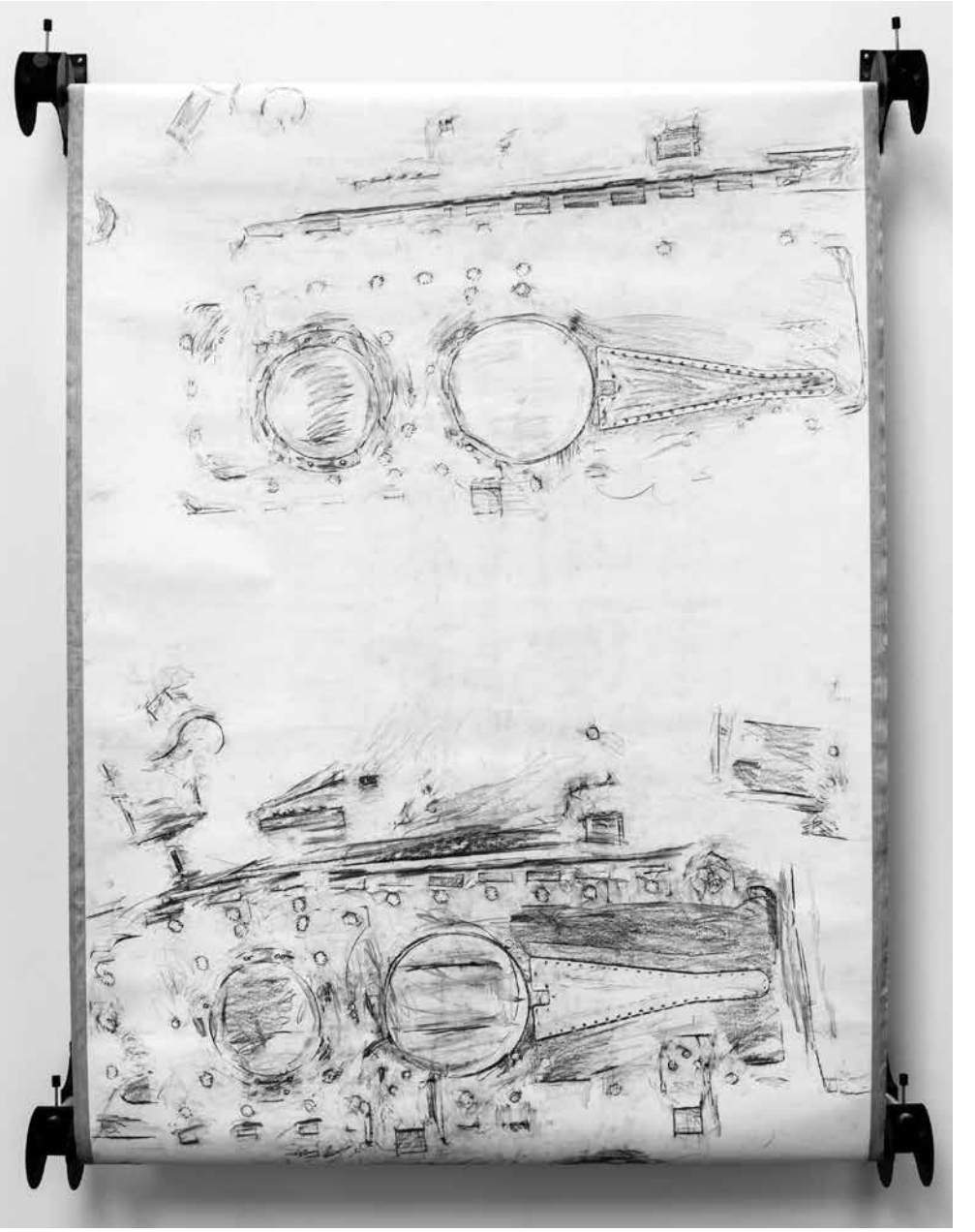


The Peenemünde scroll, 2018–20
Graphite on paper mounted on linen, aluminium, 3D print, brass
200 cm wide x height variable from 100 to maximum 370 cm — ideally 220 cm





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Nyanchama Okemwa is a Belgian, Kenyan-born, anthropologist, curator, and researcher in Philosophy, Theology, and Religious Studies at Radboud University in Nijmegen.

Pierre-Antoine Vettorello is a French-Ivorian textile and fashion designer, and is completing a PhD in the Arts at Sint Lucas School of Arts and the University of Antwerp.

Bent Vande Sompele is a composer and sound designer from Antwerp who releases music under the pseudonym of Bent Von Bent/ŌGON BATTO. Besides working as a composer for documentaries and as a visual artist around archiving systems, he is the co-runner of the Hare Akedod-label and co-founder of the electronic duo Spirit & Form (with David Eden aka DSR Lines). He is also host of the radio shows gems & SCHERM on the online radio platform 'We Are Various'.

Haseeb Ahmed is a research-based artist from the US, who lives and works in Brussels. He produces objects, site-specific installations and films, and writes for various publications. Often working collaboratively, Haseeb integrates methodologies from hard sciences into his art production. Haseeb holds a PhD in the Arts from Sint Lucas School of Arts and the University of Antwerp.

TYPP TEAM

Mekhitar Garabedian lives and works in Antwerp, Belgium. Deploying a variety of media such as drawing, video, photography and installations, many of his works draw from his experience as an immigrant and play on the humour and poetic qualities he finds between languages, cultures and histories. Just as his personal diasporic history is layered, so too his work resonates with a multiplicity of references to literature, music, philosophy and the visual arts. Mekhitar Garabedian is currently affiliated with KASK / School of Arts, Ghent, as a postdoctoral researcher and professor of media art and photography. He is represented by Baronian Xippas, Brussels.

Saskia Van der Gucht is a visual artist and teacher at the jewellery department of Sint Lucas Antwerpen. She is interested in emotional and economical value, shelter and the feeling of home. Through a combination of visual and conceptual aspects from the field of jewellery and architecture she translates these subjects into objects, small installations, photography and drawings. From September 2020 on she is working on a research project connected to the Precious Dialogue research platform at Sint Lucas Antwerpen.

Caroline Dumalin is the artistic director of Morpho, an artist residency and provider of studios in Antwerp that combines local engagement with international exchange. Prior to her appointment, she worked as a curator at WIELS Contemporary Art Centre in Brussels (2013 – 2020), where she organized the solo exhibitions of Mario García Torres, Hana Miletić, Sophie Podolski, and Vincent Meessen, and co-curated the group exhibitions Open Skies, The Absent Museum and Foreign Places. In addition to her activities as an arts writer, editor of publications and guest lecturer, she is a board member of the Brussels art space Etablissement d'en face.

Paul Hendrikse is a visual artist, who studied at the art academy in Den Bosch and at the Jan van Eyck Academy in Maastricht. He is currently a PhD researcher at Sint Lucas School of Arts and the University of Antwerp. He has shown his work in group and solo exhibitions and won various prizes for his work. He has shown his work at Rencontres Internationales in Berlin and Paris, videobiennale Contour, Mechelen, Belgium, MGLC, Ljubljana, Slovenia, CC Mechelen, Belgium (solo), S.M.A.K, Ghent (solo), ENSAPC, Paris, Bozar, Brussels, Onomatopee, Eindhoven, Blank, Turin, Kunsthalle Basel, Kunsthalle Exnergasse, Vienna and Smart Project Space, Amsterdam (solo).

Ward Heirwegh graduated in 2007 as a master in typography at LUCA School of Arts Ghent, after which he started his independent practice as a graphic designer and art director in the cultural field. He founded Sleeperhold Publications, a research-based and ephemeral platform for artistic output like books, posters, a deck of cards, vinyl records and exhibitions. He teaches at Sint Lucas School of Arts Antwerp.

Zeynep Kubat is an art historian, independent curator and writer. In her work, she focuses on the crossroads between art, culture and society. Next to being chief editor of TYPP, she is coördinator and core editor for rekto:verso magazine and editor for FORUM+, journal for art and research. She is a board member of several institutions and organisations in the contemporary arts field. She curates exhibitions in contemporary art, mainly focusing on intersectional artistic practices, and often acts as artistic advisor.

In this issue, TYPP gathers contributions by artists and their research practices about different ways to look for clarity and clarification. The blind spot in our eyes should not turn into a blind spot in our minds. We don't need our eyes to detect a missing link, relate forgotten histories or rekindle spirits in objects that have been neutralized. The artistic research practices that you can read about in TYPP#8 are more than attempts to confront our biases towards culture and history; they are inspired propositions for the future.

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