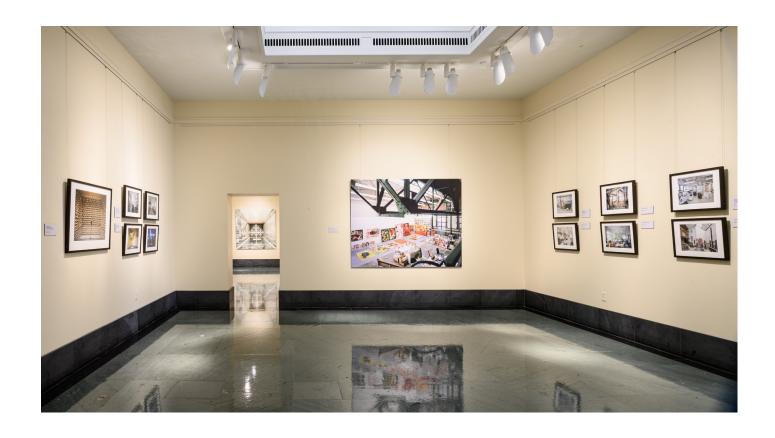
CULTURAL PROGRAMS OF

THE NATIONAL ACADEMY OF SCIENCES

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Studio + Laboratory: Workshops of Knowledge

Be it artistic works or scientific discoveries, the end results are all that generally remain visible of the creative process. What happens behind closed doors in the laboratory or studio tends to be just as invisible as it is mysterious. Stefanie Bürkle, a German artist and visual arts professor, chose to delve into these sites of creativity, using large and medium-format analogue cameras to photograph scientists' laboratories and artists' studios in Berlin.

Bürkle's photographic works present intriguing visual puzzles. Each is a bewildering mosaic of storage shelves, work benches, tools, equipment, and half-finished projects that convey a sense of energy and creativity. The viewer is compelled to imagine what these spaces look like when populated and what types of activities would take place. The photographs reveal a curious similarity between studio and laboratory. Would we see the same similarities if we were watching artists and scientists at work? Perhaps, but not necessarily.

By pointing her lens at the work spaces rather than the workers, Bürkle encourages us to look past some of the superficial differences between artists and scientists and to consider whether at a deeper level there are significant parallels in the creative processes of the two disciplines and to better understand the nature of creativity.

Stefanie Bürkle is an artist and a professor of fine art at the Technical University of Berlin, Germany. She studied scenography in Paris and fine art at the Berlin University of the Arts. Her artistic practice ranges from painting and photography to video and installation. In addition to highlighting the connections between art and science, her art and research focus on a critical examination of urban space, exploring topics such as construction sites and facades, architecture as scenography, and theme parks and tourism.

#StefanieBürkle I@CPNAS



The Viewfinder

Directing his 1944 survival flick *Lifeboat*, the engineer-turned-filmmaker Alfred Hitchcock railed against the notion of a soundtrack accompanying the action. In the midst of a rough and vacant sea, he demanded, "where does the music come from?" Told of the tirade, famed cinematic composer David Raskin is said to have replied, "ask Hitch where the cameras are coming from."

In the collection of photos that constitute Stefanie Bürkle's *Studio + Laboratory*, we, the viewers, become the hidden orchestra and camera in the sets of knowledge creation. The visual artist provokes us with an ensemble of working methods—an internal camerawork that leaves the past unseen, future to be designed, and the present captured as material reality.

Bürkle's images omit the usual accompaniments to knowledge creation. Here, there are no invested emotions, no ambitions, no activism, no politics, no egos, no pressures, no laurels, and no losses. This subtraction fades out the boundaries erected between sciences and arts, and functions and truths—perhaps even suggesting useful functions for those truths. The net focus is on the *engineering* of knowledge, and by those outside the pictures.

Throughout human history, mechanical instruments have enabled fundamental insights and inspired new ways of thinking about reality. In the story where telescopes advanced astronomy, microscopes preceded genetics, engines powered energetics, and airplanes propelled aeronautics, engineering, as a practical art, has birthed new sciences. Supporting this point, the crash test dummies and wind tunnel experiments pictured in Bürkle's collection reinforce how tools continue to establish our understandings of the world. If the intent is highest safety, from an engineering sense, does it matter if a certain knowledge comes from desire instead of disinterestedness, or from consumerism rather than curiosity? We like to privilege one form of knowledge over another, theories habitually held superior to tools. "A prototype is indeed a theory," goes one declaration seeking a deserved higher status for engineering knowledge, an idea pertinent in the arts

as well. Marcel Duchamp's Fountain stunned the art world not because the artist declared it as "art" but it defied the artistic customs just as many movements preceding it. Art, in this instance, could be readymade. The pseudonym "Mr. Mutt," Duchamp wrote, "took an ordinary article of life, placed it so that its useful significance disappeared under the new title and point of view—created a new thought for that object." Perhaps, a new thought through that object.

Bürkle's vantage commends practicality; it may even honor adaptability—how knowledge is put to fruitful use across situations. But any workshop of knowledge is also a zone of ignorance. The celebration of knowledge should not devalue ignorance for that was its starting point. The concepts are distanced twins in the dark and light of inquiry that, akin to photography, locate the viewer between the exactness of the technique and indefiniteness of the message. Knowledge and ignorance are not necessarily opposing forces: they organize, lead to, and construct one another like the union of cinematography and soundtrack. Unlike ignorance sometimes, though, knowledge does not necessarily promote bliss. Knowledge is known to both settle and unsettle us. Knowledge gives us control—both real and illusive. Hence it is pursued and esteemed. Knowledge may quicken action in one area at the expense of others. Knowledge is not always sourced from its creators; it is also built by its beholders.

As in *Rear Window*, another creation of Hitchcock, through Bürkle's lens we see the world differently and also participate in it differently. In this film, the camera replaces the perspective of a disabled protagonist, who is a photographer by trade. His understanding of the surrounding world is approximated piecewise through the zooms and angles into the windows of the neighborhood. There are strangers everywhere, there is action everywhere, but they are subtracted out for focus. At this point, we too become voyeurs of knowledge, as Bürkle's collection suggests. We also become unreliable narrators of our creations and consumptions. We are left to contemplate the facts and politics of knowledge. The more we observe, the more we discern.

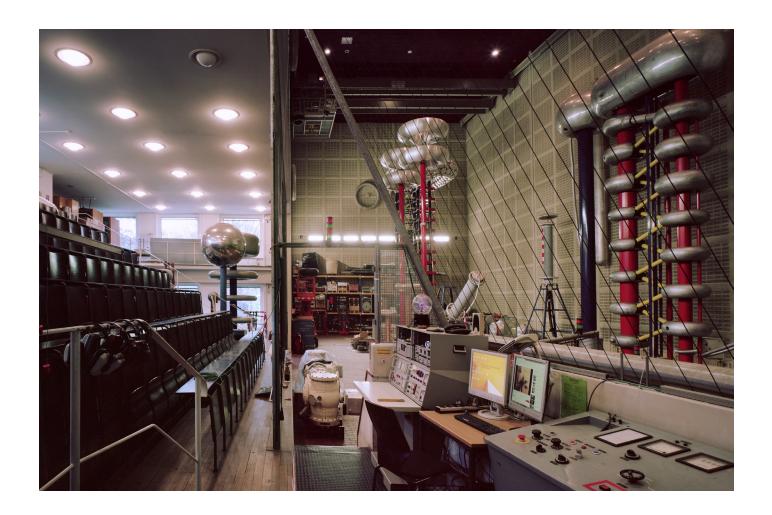
—Guru Madhavan Norman R. Augustine Senior Scholar Director of Programs National Academy of Engineering (US) Washington, D.C.



Berlin Electro Storage Ring (BESSY) Helmhotz Center Berlin, Adlershof, 2001, inkjet print mounted on alumnium, 78.7 x 63 inches



Studio Jonathan Meese, 2017, inkjet print mounted on aluminum, 78.7 x 63 inches



High Voltage Hall, High Voltage Engineering Technical University of Berlin 2019 inkjet print 20 x 27.5 inches



Studio Tomás Saraceno 2018 inkjet print 11 x 15 inches



Studio Anselm Reyle, 2018, inkjet print, 15 x 20 inches



Parallel Optical Research Testbed And Laboratory (PORTAL), immersive production system CAVE, Institute of Mathematics, Technical University of Berlin, 2017, inkjet print, 15 x 20 inches

Stefanie Bürkle

Studio + Laboratory: Workshops of Knowledge

In 2017 and 2018, the Berlin artist Stefanie Bürkle artistically documented a total of 27 studios of Berlin artists – including her own – as well as 29 laboratories and research institutes of the Technical University. With "Studio + Laboratory," she continues her photo series "Useful Illusions" (2000-2003), in which she juxtaposes spaces of science with artificial urban worlds.

The result is a series of photographs subtitled "Workshops of Knowledge" that give a sense of the essential connection between the cognitive areas of art and science. The separation of scientia from other forms of knowledge is a process that has been going on for several centuries since the early modern age: In the end, there were, on the one hand, the exact sciences based on the principle of verifiable and repeatable experiments, making a resultant claim to veracity or reality, and, on the other hand, the field of human imagination, fantasy, belief, fiction, and artistic production. In the sober juxtaposition of objectively photographed artistic studios and research centers, the border between the two fields becomes permeable and invites the following questions, among others: How much creativity is there in scientific discoveries? How much experimentation and patience is involved in creating works of art? In this series of pictures, both spheres are reduced to the places where the process of their production takes place. These are places in which the human mind rules and finds the new in different ways.

"Portraits of Spaces" is what the artist calls the scenographic photographs, in contrast to detailed shots, which she designates as "Processes" and "Material." The humanization associated with the term "portrait" contrasts with the physical absence of the people actually working in these places. Running computers, glowing ceiling lamps, open doors, pens lying around, coffee cups or a half-empty bottle of an energy drink hint at the presence of people who

may have just recently moved out of the frame. Their legacies challenge the imagination of the viewer to mentally stroll through the spectrum of possible activities performed by these people in those places.

One crucial difference between the places of science and those of artistic production, however, is the guestion of the origin and amount of financial resources. In the case of the scientific institutions selected by Stefanie Bürkle, they are places where both research and teaching take place, and which depend mainly on public funding. The aspect of teaching plays almost no role in the Berlin studios selected for the series, except in the case of Stefanie Bürkle herself, whose studio is located in the Research Institute for Hydraulic Engineering and Shipbuilding (VWS) above the "Deep Water Towing Channel" of the Institute of Land and Sea Transport, also a part of the series. A private studio operation is financially very different and is rented in available commercial space. For some of the Berlin artists, funds were also sufficient to acquire the work spaces.

Apart from purely practical aspects, relevant for the production of works of art, another critical aspect in the studio spaces is the function of exhibiting art for a selected public (collectors, gallerists, curators, critics, etc.). The artist's workshop is also always a place of communication and impartation of art as well as a stage for the self-promotion of the artists. A decisive aspect of the impression made by the studio spaces is whether they are actually production facilities dealing with materials such as paint or clay, such as in the large atelier spaces of Anselm Reyle, organized with a division of labor, or "offices" of purely conceptual artists such as Christian Jankowski, who consistently delegates the production of his works to others.

In the research institutions, neither such a degree of publicity nor the related aesthetic level associated with it is relevant. They are also relatively rarely seen as an artistic idea. This is in contrast to numerous images depicting studios created since the Renaissance by artists especially to question their own practice and social position. In parallel efforts for emancipation, the issue was the clearest possible separation from "mere" craft. For the ennoblement of creative art as

liberal arts which claimed the same rank as music, rhetoric, and poetry, the demonstration of intellectual activity linked to or rather based on the production of works of art was decisive. The arguments for this were diverse and related, among other things, to the degree of education of the artists (humanism), the scientific aspect of their work (perspective theory, anatomy, color theory, etc.) and the ultimate ideal or even divine nature of the creative (genius). In times of courtly culture it was also important to do as little physical activity as possible at work.

Stefanie Bürkle has been Professor of Creative Art at the Institute of Architecture since 2009. It is the only purely artistic professorship of the Technical University of Berlin. Her photo series is informed by her unique perspective. In equating artists' studios and research facilities, she uses classical themes for the evaluation of artistic work, the intellectual history of which is more than 500 years old. The common focus of scientific research and artistic creation regarding the production of knowledge, however, is achieved via purely visual analogies. The contextual interferences and the partial penetration of both spheres arise in the eye of the beholder.

—Marc Wellmann Artistic Director Haus am Lützowplatz Berlin, Germany



This exhibition was organized by the Berlin Museum of Photography, seen here, where it was on view February 1 through March 3, 2019.