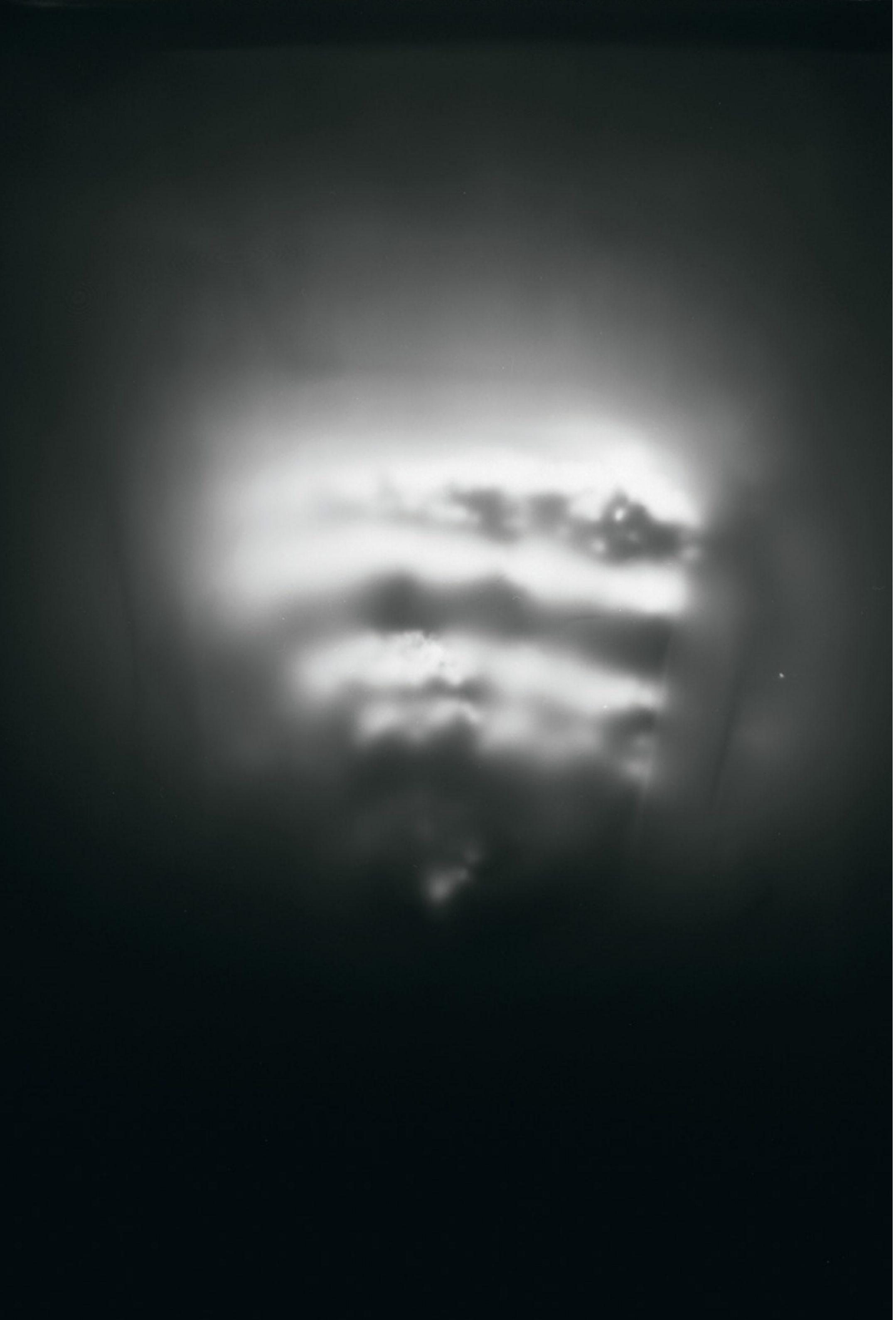

SUPPLEMENT
2-2017
by Fillip

Exclusion Zones
Susanne Kriemann
and Eva Wilson

Fillip, Canada



O sun, you middle-aged star. For the past 4.567 billion years, you have been embroiled in a process of continuous nuclear reaction—one that will continue for about the same length of time, until the hydrogen fusion in your core has diminished, your outer layers expand, and you swell to become a Red Giant, and, in the process, swallow the planets closest to you, including, most likely, Earth.

The sun's radiation, the symptom of its entropic decay, is the source not only of life, but also of time on Earth. Spiralling around our ageing star, we measure our lives in revolutions. Another ten or twenty revolutions from now, fossil fuels will be diminished and spent to the point of exhaustion. For the past few hundred million years, these fossils have harboured the energy of our sun deep under the pressure of the Earth's mantle and in the heat of its core. These are the sediments of prehistoric organic matter that at one time basked in the spectral range of light that facilitates photosynthesis (between 400 and 700 nanometres). This was long before organisms developed the ability to break down cellulose, which eventually prevented organic remains from sinking deeper toward the Earth's core and fossilizing.

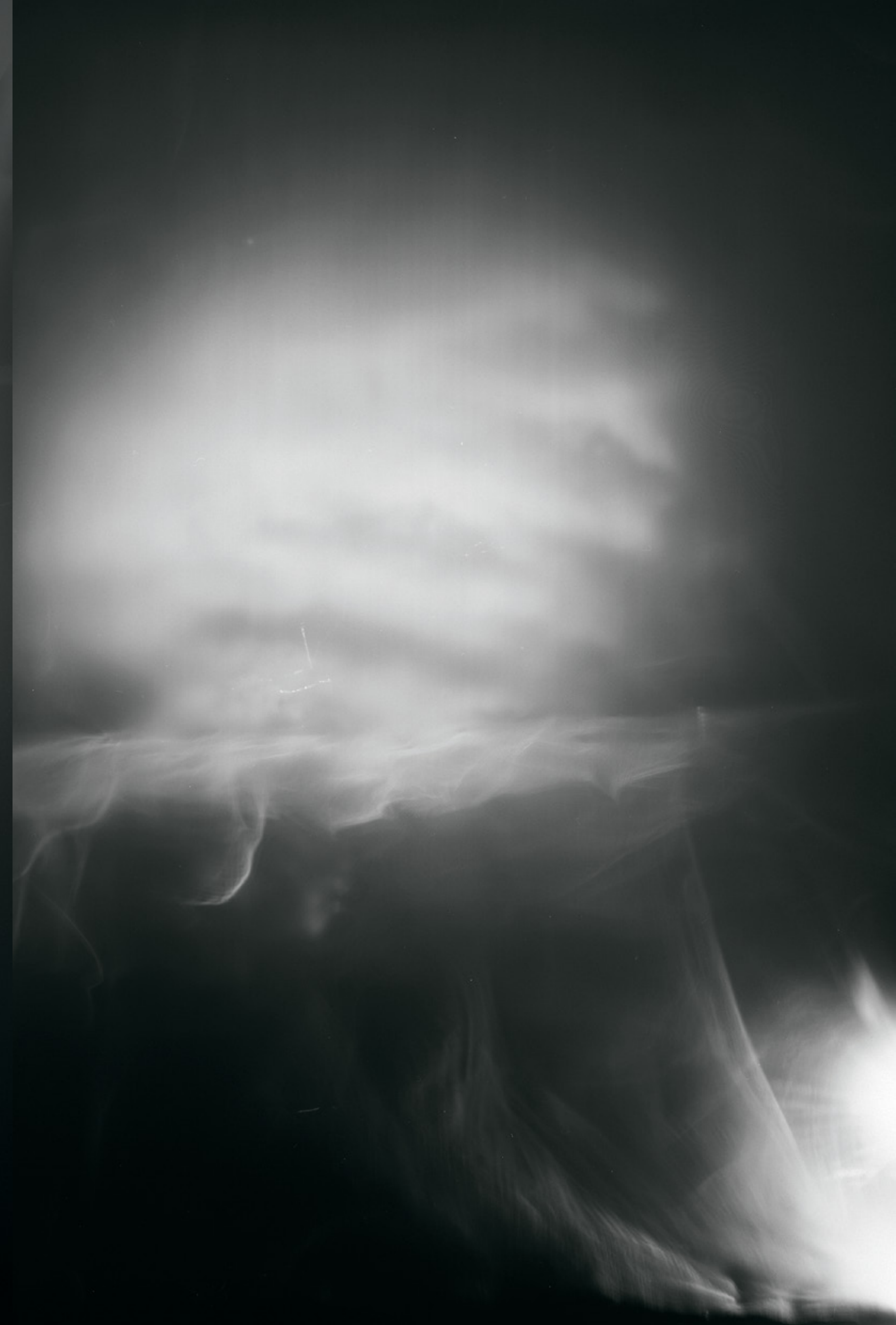
My coevals: we will never become fossils.

Today, the mechanics of extraction produced under the rule of a consumptive economy have excavated and brought to light—to the same nuclear light that formed them—the coal and oil and gas whose combustion sustains (and endangers) life on Earth. We live in a global economy of the sun, commodities' creation running on radiation, burning up time, millions of years, in a century.

Nuclear reactor fuels have no solar source. They are the product of several supernovae, the input of explosive debris of Earth's progenitor stars at the time of the planet's formation. Whether the origin of radioactive energy is extraterrestrial, or rather forms the core of the planet itself, its astronomical make-up and inception is effectively indistinguishable.

The vast majority of energy consumed on Earth, however, is solar, stellar, as is the basis for the chemical reaction that caused the mass extinctions of the Great Oxygenation Event (GOE) that initiated our current oxygen-based ecosphere. The spectral range of solar light visible to humans approximately matches the range of photosynthetically active radiation. Our eye responds to stimulation by electromagnetic radiation within this spectrum as perception of colour, while a plant's pigments are able to convert it into chemical energy, releasing oxygen as a waste product: as the air that we breath, but also as a toxic polluter for the now extinct pre-GOE organisms. Underground, where there is no light, colour does not exist.

Some photosensitive carriers can record radiation beyond the limits of the visible spectrum: this is how the artist Susanne Kriemann was able to record autoradiographs of radioactive uranium from within a darkroom in a

laboratory at the American Museum of Natural History in New York. Some of the first dosimeters—personal film badges used to monitor cumulative radiation doses—were developed after scientists of the Manhattan Project realized that photographic film stored near to radioactive materials had been *exposed* (in both senses). The image conjured from the film indicated invisible gamma rays, X-rays, and beta particles that were shooting through the labs, through the scientists, and through time.

Uranium-235 has a half-life of 703.8 million years. Caesium-137's half-life is approximately 30 years. Both isotopes are in a state of constant instability, decaying continuously into more stable elements. At the end of its long process of entropy, uranium becomes lead—an element that, in another time, made up the type metal that produced typographic print.

Uraninite, or pitchblende, is a radioactive mineral and ore that can be used to recover uranium and radium. Large deposits of uraninite were discovered in the Ore Mountains in Thuringia and Saxony in Germany as early as the fifteenth century. At the time, the leady, fatty black substance was deemed worthless and only retrieved from mine dumps when its oxidized colours were discovered as useful in the production of olive-green, grey, and ochre pigments.

Painters in the seventeenth and eighteenth centuries used concoctions of oxidized uraninite mixed with fresh-egg tempera or oil made from local walnut crops to produce paintings that are radioactively contaminated: look at them and they will look back at you, not by means of the refracted sunlight glistening off their varnish in all the colours of the visible spectral range, but by the stealthy emanation of their own energies, radiating not just to your eyes, but through your clothes, your hair—and all the cells of your body.

In 2016, Susanne Kriemann joined a group of researchers: geologists and biologists from the University of Jena analyzing the quantities of toxic and radiating elements in the ecosphere of the fields surrounding the mines operated by the now defunct mining company SDAG Wismut (a Soviet-German stock company) in the Ore Mountains of the former GDR. Kriemann in turn was collecting the contaminated plants in order to use them in her photograms. Apart from uranium, the soil and vegetation from the former mining areas contain traces of lanthanum, ittrium, gadolinium, lead, copper, aluminum, argentum, vanadium, and other heavy metals and rare earth elements.

The long history of extraction and global dissemination of natural resources from the area ended abruptly in 1990 with the collapse of the nation states whose territorial and exterritorial claims to the land evaporated with them. Agriculture in the densely populated Wismut area has now made way for risky recreation grounds, and harvesting and extraction on the Gessenwiese test field in in East Thuringia today serves the sole purpose of attempting to protect animals and humans from the dangers of its contamination. It is thought that safe

human consumption of groundwater, soil, and air from the area will not be possible for another 100,000 years.

And yet nature here has resumed its wild proliferations. Oblivious local livestock continues to ruminate the fresh grass that grows on fields just beyond the confines of the exclusion zone—boundaries that are the consequence of policies that choose to ignore the expansive nature of industrial contamination in favour of a fictional reality geared toward the doctrine of *Strahlenschutz* (radiation protection). The two monumental cone-shaped slag piles of mining waste that for years dominated the horizon near Ronneburg as man-made Alps ("*Alp*" also meaning "nightmare" in German) were removed to make way for the Bundesgartenschau—the German federal horticulture show of 2007. The current Wismut GmbH, the federal successor of the old SDAG, is currently remediating 570 hectares of sludge ponds containing the tailings from the uranium refinement process. When left to dry out, the radioactive dust of these tailings can be carried great distances by the wind, reaching the doors and windows of most of the taxpayers who contributed to the 6 billion euros spent on remediation processes to date.

Kriemann's work *Falsche-Kamille, Wilde Möhre, Bitterkraut (Zyklus I)* (2016) consists of photograms of plants harvested in September 2016 from the Gessenwiese. Back in her darkened studio, Kriemann placed the crop on photosensitive paper, weighted the corners down with books that were at hand (issues of *Camera Austria*, *Afterall*, and *Texte zur Kunst*, Jonathan Crary's *24/7*, and an Agatha Christie novel), and exposed the image by using the LED flashlight of her smart phone. For a brief instant, the rare earth minerals inside her mobile device illuminated the harvested plants and their sister elements, thereby exposing the photosensitive paper. Charged with a mixture of electricity generated mostly from coal, along with nuclear and renewable sources, the discharge of the phone's flash completes a Promethean loop that spans an epic transnational industrial circumference, entangling stone coal from Columbia, Congolese coltan, Mongolian europium, numerous other raw materials, and countless hours of global labour, wrapped up in the complex theology emanating from the heliocentre's heart at 1 Infinite Loop, Cupertino, California.

Printed captions accompany the final images. Rather than functioning as a detached element, the captions act as an inherent component of the work, framed together with the photographs. Like much of Kriemann's work, *Falsche Kamille, Wilde Möhre, Bitterkraut* operates in the fields of photography and the archive and their relationship to time, and yet the work also tugs at the temporal fabric of text. The paper caption sheets contain the botanical denominations of the plant matter and the geographical locations and dates of the finding and harvest, as well as lists of heavy metals and other elements found in the plants, printed on top of and across colour fields of earthy tones.

The pigments used by Kriemann for the captions, the lists, and the colour fields were manufactured using the crushed and ground-up dust from the same plants whose imprints we see in the photograms, including the toxic elements sourced from the recesses deep below the Gessenwiese. The plants themselves, at some point in the fall of 2016, surrendered their physical form to become symbol and sign. The captions are read in time and simultaneously operate across time as objects in the exhibition, materially replacing or rather containing the images' subject matter as their incarnate chromatic afterlife. The adjacent photograms of the plants (simultaneously icon and index) show the black-and-white silhouettes of proliferating shoots and explosions of pollen that resemble images taken in cloud chambers or some kind of abstract expressionist firework.

The duration of an exhibition is marked by the dates of its opening and its dismantling, after which it ceases to exist beyond memory or archive. An exhibition usually lasts a month or two or three, a temporal unit that corresponds to a human scale of lived time, an extended sensation of the historical now. It parallels the approximate duration of a botanical season, it matches the extent of recent memory. It is the equivalent of a vague present. The time of an exhibition stretches beyond the attention span of a news cycle but doesn't last long enough to be a reminder of a different time and self. Time can be said to be the medium of exhibition, its dimension established for the sake of the temporal awareness of its human visitor.

Text, too, itself a medium, relies on time as its agent. Despite its configuration as an immutable accumulation of letters on a page, written language (including code) is only intelligible through and in the time of its reader. Text makes multiple claims toward temporalities: it exists both across time and within the moment it is read—and, in the case of fiction, also looks to the temporal space of its narrative diegesis

Because of their chemical properties, the special pigments used to produce Kriemann's captions will, in time, fade. The captions' lifespan as text outlasts their existence as exhibits by only a few months, after which the effects of sunlight will have defeated the earthy browns, greens, and umber, abandoning the black-and-white images to their composed image-life and passing on to a new stage of decomposition.

Kriemann's bleached pigments harbour another, fiercer temporal anomaly: neither exhibition nor exposure to the rays of light affect the particles of the pigments themselves, which will, in ways invisible and illegible to the human eye, continue to emanate a kind of energy whose lifespan exists beyond any human dimension of time. These plants have absorbed not only an array of heavy metals and rare earths, but also traces of caesium-137, uranium-235, and other radiating substances found in the highly contaminated soil of the uranium mining sites operated by Wismut in

Radioactive tailing drying near Seelingstädt, 2001

Radioactive tailing drying near Seelingstädt, 2013

the Ore Mountains. The fading pigment itself is radioactive. Kriemann's harvest thus reclaims nature in a way that feeds into a different circulation than those that came before: she produces forensic or semiotic evidence of the unseen hazards, evidence that is simultaneously melancholic and violent—a vicious work, harbouring radioactivity as an ionizing agent that continues to emit rays, entering the body of the viewer, the reader, the collector.

Following the capitulation of Germany in 1945, which put an end to the proclaimed eternity of the Thousand-Year Reich that reigned for twelve interminable years, and while American forces were scrambling to secure German V-2 technology and human intelligence in the Harz Mountains, Soviet specialists set out to investigate the uranium deposits in Saxony and Thuringia that had remained largely overlooked at the time. On September 14, little more than a month after "Little Boy" and "Fat Man" detonated over Hiroshima and Nagasaki on August 6 and 9, the Soviet Union founded the Sächsische Erzsuchabteilung, the so-called Saxon ore search unit, under military direction. In 1947, the mines in the Ore Mountains quarried 145 tonnes of uranium and quickly went on to become the largest provider of the element for the USSR, producing around 10,000 tonnes by the end of 1953. Several mines in the areas of Schneeberg, Johanngeorgenstadt, Annaberg-Buchholz, and Marienberg were annexed by the USSR and became part of the state-run Wismut AG. Workers were initially recruited from the surrounding area by way of forced labour. After 1947, following protests, conditions for workers improved, and by the 1950s, the notoriously arduous and dangerous work at the Wismut mines came with extra privileges to sweeten the deal: high wages, regular deliveries of schnapps, access to desirable apartments, and a growing pride in the mining culture and the community of *Kumpel* (pitmen). At its zenith, the Wismut AG employed more than 130,000 people and generated the majority of uranium required for the Soviet nuclear program.

Three decades later, by the end of the 1980s, with world prices for uranium falling and resources in the Ore Mountains depleted, Wismut's main buyer, the USSR, failed to pay for its debts or uphold deals, plunging the company into grave financial trouble. In 1990, the GDR and USSR agreed to halt all production. Following the fall of the Wall and later the breakup of the Soviet Union, the SDAG Wismut AG was dissolved and absorbed by the Federal Republic of Germany. All responsibilities for the cleanup of the gigantic ecological damage caused by the now defunct mining company subsequently fell to the Federal Republic of Germany. Today's Wismut GmbH employs around a thousand people whose task it is to rehabilitate an area that will most likely remain contaminated for thousands of years.

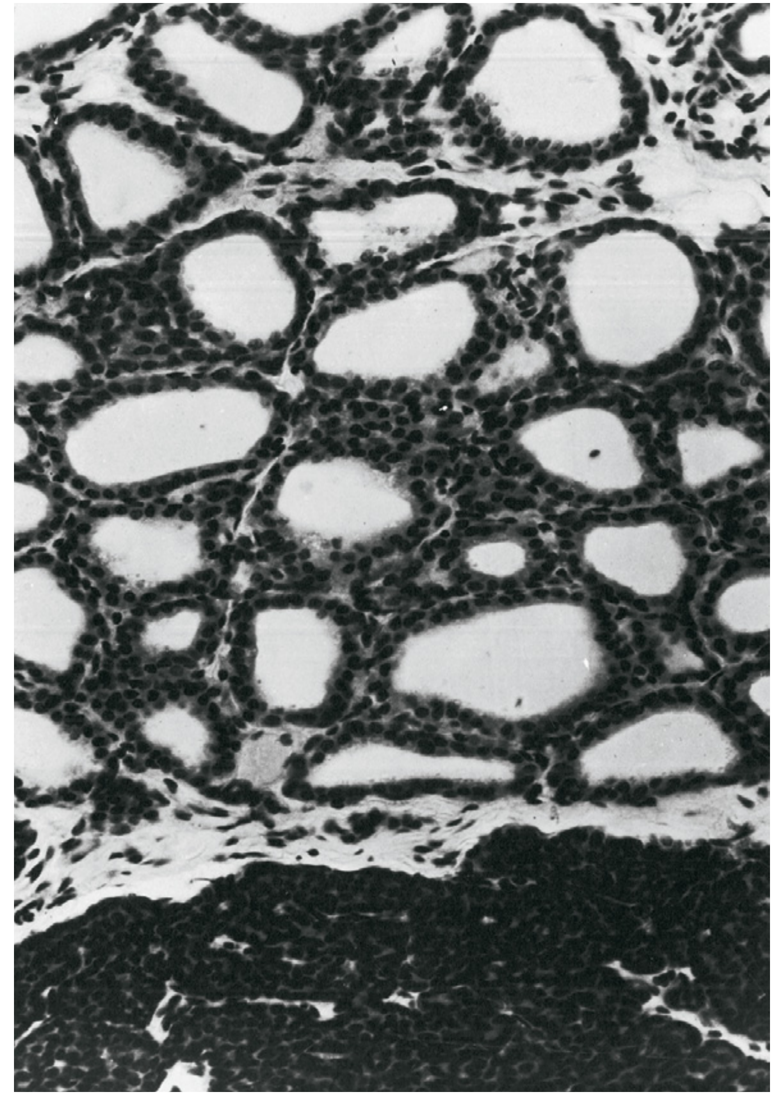
The effects of radioactive contamination are cumulative and calculated on a basis of time and intensity. The longer the exposure lasts, the worse the damage. Rays and particles enter the body and damage the genome or disrupt cellular metabolic processes, causing mutations that can become carcinogenic. Particles inhaled and retained in the body continue to radiate from within, breaking chemical bonds, transmutating chromosomes. Inhabitants of towns in the vicinity of the Fukushima Daiichi Nuclear Power Plant are only allowed to return to their houses for thirty minutes every few weeks. The dose of polonium-210 that was administered to Alexander Litvinenko at the Millennium Hotel in London in 2006 was so high that aircraft, restaurants, and hotels were contaminated in the course of the assassination attempts.

In Chernobyl's exclusion zone, wild elk, boar, and wolves roam today. It remains unclear why nature's recovery is often so swift in areas with severe radioactive contamination. One possible explanation is that the carcinogenic effects of radiation causes mutations in organisms that make them vulnerable, diminishing their chances of survival. Only animals without mutations survive, and thrive in ecospheres deserted by humans. In the wake of nuclear fallout, plants become the archivists of contamination, their roots absorbing from and returning to the soil the radioactive particles.

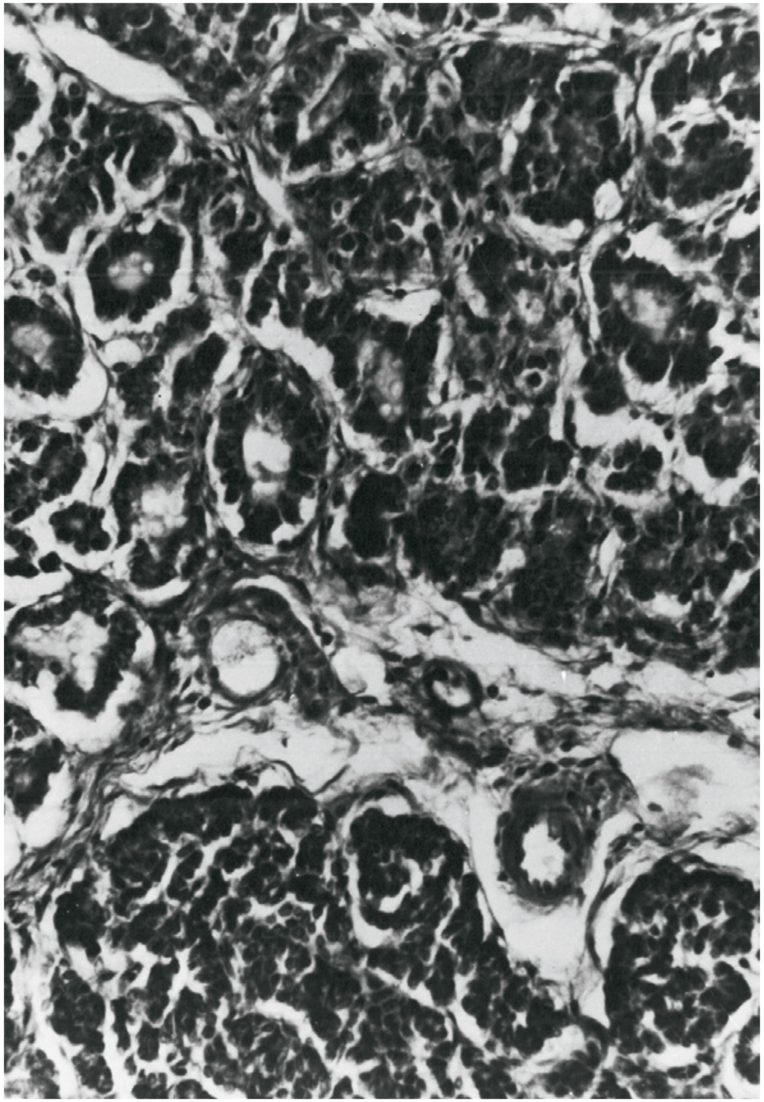
Can we think of text as a kind of soil? A humus gestating sordid growth? What if this soil were contaminated, its crop hazardous, its dust full of ionizing radiation exposing pupils and respiratory tracts and concentrating in thyroid glands? Reading assumes the proximity of a pair of eyes to the page and its matter. Reading is a prolonged exposure to text, a bodily leaning into serifs and punctuations, eyes wide to receive the reflected light. What else have you ingested? Which cells have begun to modify, to turn against you, to give up this life cycle in favour of the next: What will it hold?

How long will it take humans to develop a new sense that detects ionizing radiation? Will it be an evolution of an organ that already exists? Will its development coincide with the complete depletion of fossil fuels? Can you, future humans, hear radiation? Can you smell it? See it? Taste it? Or have you formed a new sense altogether, one that we cannot imagine and you could not describe to us now—those who lack the words and the nerves for that tingle.

I assume—clumsily—that the "sound" of radiation would register to us like the auditory feedback that a Geiger counter emits, a crackling noise whose increasing frequency raises adrenaline levels. Jean-Luc Nancy describes hearing as contagion. Sound is the movement of air that sets the body in motion, that spreads within the resonating body and cannot be contained or kept either wholly inside or outside. In contrast to this, an ontology of radioactivity could not be written along the lines of contagion. Radioactivity instead must be understood as a phenomenon that is delineated by its properties of contamination, decay, and transmutation. Imagining this future human, evolved and adapted to



Autoradiograph produced by the stripping-film technique



Autoradiograph produced by the stripping-film technique

new, elevated levels of radiation, a radioactive sensory organ might react to a spectrum of wavelengths that is not currently visible to the human eye. This more sophisticated eye (if it is an eye) might have developed over time, gradually distinguishing ultraviolet, and then X- and gamma rays. Henry Fox Talbot's early dream of a camera that could record images in a darkened room, a revolutionary mechanical fantasy of vision, might become human after all.

Human future is radioactive, as is human knowledge of the past: what we know of the age of the Earth is extraterrestrial, irradiating, and entropic. In 1956, Clair Cameron Patterson, an American researcher who was previously involved in the Manhattan Project, developed uranium–lead (U–Pb) radiometric dating, using the decay chain of uranium incorporated in zircon (Earth's oldest mineral) as an indicator of time. Uranium decays into lead with a half-life of 4.46 billion years. In Pasadena, Patterson created one of the first "clean rooms," a laboratory that prevented lead contamination from outside sources, in order to analyze the age of a Canyon Diablo meteorite (which had crash-landed in today's Arizona 50,000 years ago) and from this, that of the solar system. Earth is only slightly younger than the sun: over a course of approximately 50 million years, the solar nebula collapsed into the solar disk, its dust agglomerating into planets and meteorites. (But of course it is tautological to assume the dimension of years here, there having been no Earth to orbit the toddling sun.)

After 1949, when the Soviet Union conducted its first nuclear weapons test ("First Lightning") at the Semipalatinsk Test Site in Kazakhstan using Wismut's uranium, the Cold War created an uncannily stable condition of escalation and equilibrium, one that could only be perceived as a new permanent state. An ever-faster accumulation of nuclear arms set in motion a process of endless fallout. By now, nuclear tests around the globe have left ubiquitous traces of radiation, markers of the advent of the Anthropocene. No life without entropy, no half-life without decay.

The father of cybernetics, Norbert Wiener, remarked that "the stable state of a living organism is to be dead." Wiener, in 1950, published an article advocating "urban dispersal" as necessary preparation for a nuclear attack. Attempting to scatter the concentration of residential and industrial sites of American cluster cities that presented obvious military targets, he proposed the development of flattened, linear, or gridded settlements that were less densely populated and whose destruction could not cripple the country like an attack on one of its metropolises would. Suburbia as the locus of civil defense and survival became a dimmed and decentralized half-life, the American Dream fulfilled in the equilibrium of non-events in non-places. This was a spatial reality that mirrored the non-cities of the Soviet Union—the so-called Atomgrads—closed cities in which nuclear technology was assembled and tested and which would appear on no official map or street sign.

In Thuringia and Saxony, villages disappeared or meandered in the wake of various mining endeavours, a gigantic sculptural exercise that could move entire cities, create new landscapes, and mutate whole environments, thus upending any notion of *Heimat* (homeland) and accelerating tectonic events as if mankind had become titanic.

But really, mankind had become tired in Wismut-Land. The miners were heavy with constant fatigue and solemnly lacked the words to describe their subterranean life *untertage* (under days).

People there, it was said, were apathetic and listless and they themselves even complained about their perennial fatigue and wondered about those strange moments when they were somehow absent. There was a heaviness there, which hung over everything: over the seemingly endless series of days in the courtyard, over the garden, in the labyrinth of the outbuilding of the half-dead, post-collectivization estate. (Lutz Seiler)

Today, their wives and widows inhabit the expensive houses afforded by their husbands' diminished (half-)lives. Extended exposure to alpha radiation caused constant damage to the miners' y-chromosomes: their offspring were more often female than male. A generation of nuclear women is the consequence of these cellular dramas, of their fathers' necropolitical wagers and the transgressions of transnational extraction.
— Eva Wilson



Installation views of
Falsche Kamille, Wilde Möhre, Bitterkraut
at RaebervonStenglin, Zürich, 2016

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C. Harvesting plants on the Gessenwiese, a field of grassland on the former mining territories of SDAG Wismut, where uraninite was mined. Susanne Kriemann visited the Gessenwiese in September 2016 together with geologists and biologists of the University of Jena, Germany.

2–5. Susanne Kriemann, *Pechblenden, MfN, 7, 42, and 84 days in 2016. Half-life 4.5 billion years.* Autoradiography of uraninite taken from Hartenstein, Ore Mountains, Saxony, Germany. Collection of the Museum of Natural History, Berlin.

Test 4 1/16–16/16, Sample 1999_0505. Test began on March 6, 2016, coinciding with the opening of the exhibition *Pechblende (Chapter 1)* at the Ernst Schering Foundation, Berlin, and ended on June 19, 2016.

One sample of uraninite from Saxony, Germany, was tested on sixteen sheet films in the basement of the Museum of Natural History in Berlin. Each week, one sheet film was removed. Supported by Dr. Ralf Thomas Schmitt, Museum of Natural History, Leibnitz-Institute for Evolution and Biodiversity Science, Berlin.

9/10. Radioactive tailing near Seelingstädt. 200104, 1933, May 1, 2001, 12500, rgb, and 201304, 0053, April 15, 2013, 32918, rgb. Courtesy of Landesamt für Vermessung und Geoinformation, Erfurt, Germany.

SAG / SDAG Wismut was a uranium mining company in the GDR during the time of the Cold War. It produced a total of 230,400 tonnes of uranium between 1947 and 1990 and made the GDR the fourth largest producer of uranium ore in the world at the time. It was the largest single producer of uranium ore in the entire sphere of control of the USSR. In 1991, after German reunification, it was transformed into the Wismut GmbH company, owned by the Federal Republic of Germany, which is now responsible for the restoration and environmental cleanup of the former mining and milling areas. The head office of SDAG Wismut / Wismut GmbH is in Chemnitz-Siegmar.

The Ore Mountains (Erzgebirge) and the adjacent Vogtland mountains were the first targets for uranium exploration and host the largest number of deposits mined by Wismut. All deposits in these mountain ranges are hydrothermal vein-style mineralizations in Palaeozoic metasedimentary and igneous rocks and Variscan-age granites. Most deposits are situated in the western Ore Mountains and the neighbouring Vogtland region, whereas the central and eastern Ore Mountains contain only a few smaller deposits.

The deposits are related to deep crustal northwest-trending fault structures, with the most important being the Gera-Jáchymov fault zone containing most of the larger deposits, including Jáchymov on the Czech site of the Erzgebirge mountains, Johanngeorgenstadt, Pöhla-Tellerhäuser, Schneeberg-Schlema-Alberoda in the German part of the Erzgebirge mountains, and Ronneburg black shale–type mineralization in Thuringia. The size of the mineralizations ranges from very small deposits with some hundred kilograms of uranium content and a few mineralized veins up to the giant deposit of Schneeberg-Schlema-Alberoda containing nearly 100,000 tonnes of uranium and about 2,000 mineralized veins.

Political and economic changes in the GDR and the subsequent reunification of Germany led to the cessation of uranium mining in December 1990. The Federal Republic of Germany assumed ownership of the East German and Soviet stocks of the company and transformed the company into Wismut GmbH in 1991. The restoration of the former mining and milling sites, for which the government approved a total budget of around 6.4 billion euros, though higher costs are anticipated, includes securing/filling underground cavities, covering dumps and tailings, treating mine water, and removing / decontaminating the buildings. In 2011 the restoration program was extended to the year 2045. (Source: *Wikipedia*)

13 / 14. Autoradiographs produced by the stripping-film technique.

A thin section of tissue is spread in a petri dish on water at 42°C. When the ribbon is smooth, the small dish is placed in a large bowl of cool water illuminated with a red light and the section is floated onto a 2" × 2" lantern-slide plate. After twenty-four hours, when the unit is dry, the paraffin is removed with xylol and the exposure is continued for a sufficient period as indicated by a Geiger counter. After development, fixation, and washing, the plate is stained with Harris's hematoxylin solution by the following route: overstain → wash → acid water → wash → alkaline water → wash → counterstain with eosin.

The stained preparation is dehydrated in alcohols, cleared in xylol, and mounted in clarite or balsam. Evans cautions on the use of ferric alum as a differentiating agent after hematoxylin staining, as the reagent reduces the intensity of the silver deposit. Its application is serviceable only when the photographic image is too dense from overexposure. The developed silver grains in nuclear-type emulsions are particularly sensitive to acid solutions owing to their fine state of division. It is good practice to test the staining solutions for silver solvents by running a trial alpha-ray-exposed emulsion through the staining procedure. (Source: S. R. Pelc and Alma Howard, "Techniques of Autoradiography and the Application of the Stripping-Film Method to Problems of Nuclear Metabolism," *British Medical Journal* 8, nos. 2–3 (1951).)

17–21. Susanne Kriemann, *Falsche Kamille, Wilde Möhre, Bitterkraut (Zyklus 2)*, 2017. Heliogravures.

Falsche Kamille (false chamomile), *Wilde Möhre* (wild carrot), and *Bitterkraut* (ox tongue) are three types of weeds that grow on the Gessenwiese. In September 2016, these plants were photographed on site and then harvested and dried. The pigment used for the prints is made from the ground-up, uranium-bearing dust of the same plants that were photographed. When exposed to UV rays, the colour of the pigments gradually becomes invisible, an erasure that takes about a year.

22. Installation images of Susanne Kriemann, *Falsche Kamille, Wilde Möhre, Bitterkraut*, RaebervonStenglin, Zürich, 2016. Photograms and silkscreens with ground-up wild carrot, false chamomile, and ox tongue on handmade paper. Photos by Susanne Hefti.

About the Artist & Author

Susanne Kriemann is a Berlin-based artist and professor for artistic photography at the Karlsruhe University of Arts and Design and an advisor at the Jan Van Eyck Academy Academy, Maastricht. Together with Aleksander Komarov, she founded the artist initiative AIR Berlin Alexanderplatz in 2010. Her work has been exhibited internationally at Arnolfini, Bristol; Berlinische Galerie, Berlin; Kunstverein Braunschweig; Prefix ICA, Toronto; and the 11th Shanghai Biennale, and has been published by Spector Books, Sternberg Press, ROMA, and Witte de With. Her artist books are testaments to her overarching concern with archiving—how past, present, and future is written, read, and rewritten—and the connections that can be found between art, literature, and archaeology.

Eva Wilson is a writer and curator based in London and is currently working on a doctoral thesis at Freie Universität Berlin on the concept of virtuality and the virtual image in the nineteenth century. She is an editor for documenta 14 and was a researcher at the Center for Advanced Studies BildEvidenz at Freie Universität. She was Director of Schinkel Pavillon, Berlin, and a curator at Thyssen-Bornemisza Art Contemporary, Vienna.

Supplement – 2

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