

Susan Schuppli Can the Sun Lie?



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Can the Sun Lie? Video, 12:52 min., 2014-2015





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- 1 "The Photograph as False Witness," Albany Law Journal, no. 457 (December 4, 1886).
- 2 I am referring specifically to trials that took place within American courts. See also Jennifer L. Mnookin, "The Image of Truth: Photographic Evidence and the Power of Analogy," Yale Journal of Law & the Humanities, vol. 10 (1998): 1-74.
- 3 "The Photograph as False Witness," 34, quoted in Thomas 11 Thurston, "Hearsay of the Sun: Photography, Identity, and the Law of Evidence in Nineteenth Century American Courts," American Quarterly: Hypertext Scholarship in American Studies, <http://chnm.gmu.edu/aq/photos/index.htm>, accessed March 29, 2013.
- 4 See Lorraine Daston and Peter Galison, Objectivity (New York: Zone, 2007).
- 5 See Alain Pottage, "Law Machines: Scale Models, Forensic Materiality and the Making of Modern Patent Law," Social Studies of Science 41, no. 5 (2011): 621-43.
- 6 Franklin v The State of Georgia, 69 Ga. 36 (1882).
- 7 William Henry Fox Talbot, Sun Pictures in Scotland (London, 1845). See also the reference to Talbot's Pencil of Nature in Daston and Galison, Objectivity, 130.
- 8 Thurston, "Hearsay of the Sun."
- 9 Guy Dixon, "New documentary recounts bizarre climate 13 changes seen by Inuit elders," The Globe and Mail, October 19, 2010.
- 10 Stephen G. Warren, "Optical Properties of Snow," Reviews of Geophysics and Space Physics vol. 20, no. 1 (1982), 67-89. See also Thomas C. Grenfell and Garry A. Maykut, "The Optical Properties of Ice and Snow in the Arctic Basin," Journal of Glaciology, vol. 18, no. 80 (1977): 445-63; and Holly J. Reay, "Optical Properties of Snow and Sea-Ice - A Field and Modelling Study," Department of Earth Sciences (unpublished PhD thesis, Royal Holloway College, University of London, 2013).
- 11 Bentley tended to idealize his images by placing snow crystals on monochromatic black backgrounds (outside of their natural realm) and trimming the edges of errant flakes, a practice harshly criticized by his German counterpart Richard Neuhauss.
- 12 Franklin's images of X-ray diffraction, especially "Photo 51," were crucial in establishing the double-helix structure of DNA. This photograph was shown to Watson when he toured her lab without her approval or even knowledge. The image and her accurate interpretation of the data provided Watson and Crick with the insight they needed to model DNA and resulted in their winning the Nobel Prize. Franklin's key role in this discovery remained unacknowledged during her lifetime. See Katherine Nightingale, "Behind the Picture: Photo 51," April 25, 2013, <http://www.insight.mrc.ac.uk/2013/04/25/behind-the-picture-photo-51/>
- 13 Zacharias Kunuk and Ian Mauro, directors, Inuit Knowledge and Climate Change (Canada, 2010), 54 min.
- 14 Dixon, "New documentary recounts bizarre climate changes seen by Inuit elders."

Can the Sun Lie?

SUSAN SCHUPPLI

Video, 12:52 min., 2014–2015
& Essay

EN “Can the sun lie?” a U.S. court asked in 1886 when reflecting upon the probative value of new forms of technical evidence, specifically photographs and film. This now historic question was conceptually reanimated when indigenous people in the Canadian north made the public claim that the Arctic sun is setting many kilometres further west — an assertion since corroborated by scientists studying the changing optics of polar ice due to thermal inversions and global warming. The video sets out to explore the emergence of a new visual regime brought about by climate change as well as the dispute between lay knowledge and scientific expertise that subsequently arose at COP15 with regards to this solar dispute.

Susan Schuppli is a researcher and artist based in the UK. Her work examines material evidence from war and conflict to environmental disasters and climate change. Current work is focused on ice core science and the politics of cold. She has published widely within the context of media and politics and is author of the new book, *Material Witness*, published by MIT Press in 2020. Schuppli is Reader and Director of the Centre for Research Architecture, Goldsmiths where she is also an affiliate artist-researcher and Board Chair of Forensic Architecture.

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DE “Can the sun lie?“, fragte ein US-Gericht im Jahr 1886, als es über den Beweiswert neuer Formen technisch erzeugter Bilder, insbesondere Fotografien und Film, befand. Diese mittlerweile historische Frage wurde konzeptionell wiederbelebt, als indigene Gruppen im Norden Kanadas öffentlich erklärten, die arktische Sonne gehe viele Kilometer weiter westlich unter als bisher – eine Behauptung, die seither von Wissenschaftler*innen bestätigt wird: Untersuchungen zeigen, dass sich durch thermische Inversionen und die globale Erwärmung eine veränderte Optik des Polareises ergibt. Das Video setzt sich mit der Entstehung eines durch den Klimawandel hervorgerufenen neuen visuellen Regimes auseinander und zeichnet den Streit zwischen Laienwissen und wissenschaftlicher Expertise nach, der auf der COP15 (United Nations Climate Change Conference) in Bezug auf diesen Sonnenstreit aufkam.

Susan Schuppli ist eine in Großbritannien lebende Forscherin und Künstlerin, die in ihrer Arbeit materielle Beweise von Kriegen und Konflikten bis hin zu Umweltkatastrophen und Klimawandel untersucht. Ihre aktuelle Arbeit konzentriert sich auf Eiskernforschung und die Politik der Kälte. Sie hat zahlreiche Publikationen im Kontext von Medien und Politik veröffentlicht und ist Autorin des neuen Buches *Material Witness*, das 2020 bei MIT Press erschien. Schuppli ist Direktorin des Centre for Research Architecture, Goldsmiths und als künstlerische Forscherin und Vorstandsvorsitzende von Forensic Architecture tätig.

Can the Sun Lie?



Fig. 1. Sunset on the Labrador Coast. Glass photographic slide. Collection of the author.

"Can the sun lie?" asked the Albany Law Journal in 1886. "Perhaps we may say that though the sun does not lie, the liar may use the sun as a tool. Let us, then, beware of that liar who lies in the name of the sun."¹

"Sun-pictures," or photographs as they would come to be called, transformed the courtrooms of the late nineteenth century. For the first time evidence was entered into legal proceedings that had been produced by a nonhuman agent; one whose motivations could not be judged, and whose actions could not be tried for perjury.² Could the streaming radiance of the sun, in registering the traces of an external event, manipulate the natural order of things and transform stable realities into spectral images that emerged out of the collusion of chemistry and light? Or was the sun a mere conspirator in the fabrication of a photographic reality that was ultimately ordered by man?

Photographs ought to be seldom received except in conjunction with the personal evidence of the photographer who took them, and when there is satisfactory independent evidence that the photographs are truthspeaking witnesses.³

The legally sanctified gaze of the human had a rival in the advent of new photographic technology, which deeply troubled the courts. While photographs taken in the aftermath of a crime or for the purposes of explication had previously been presented in court as a visual aid to testimony, now they were entering the legal process as demonstrative evidence in their own right. If evidence could be deliberately manufactured after the fact then

the self-evident facts of the case could themselves be thrown into doubt. The introduction of these photographic materials into legal trials inaugurated a radical transformation in evidence law as the sovereignty of the human eyewitness was called into question by new modes of technical witnessing, contributing to what has been referred to as an episteme of mechanical objectivity.⁴ While things such as models and diagrams had already entered into legal proceedings in cases of patent law or to assist with clarifying property disputes, the entrance of photographic materials was understood as singularly unique because of sunlight's persuasive power of analogization.⁵ Its radiological emissions produced such convincing pictures of the real that the subjective processes of human recollection and memory could, it seemed, be set aside in favor of a new regime of scientifically induced "truth." Indeed, proponents of the legal aid provided by sunlight were swift to dismiss any doubts as to its fidelity and countered these reservations with statements such as the following:

We cannot conceive of a more impartial and truthful witness than the sun, as its light stamps and seals the similitude of the wound on the photograph put before the jury; it would be more accurate than the memory of witnesses, and as the object of all is to show truth, why should not this dumb witness show it?⁶

In this latter citation, the sun is figured as a transcendent light that bestows upon the photograph the authoritative stamp and seal of a higher order of truth—namely that of nature. Human observations could be subjectively tainted whereas the photographic memory captured by the direct intercession of sunlight created visible proofs that no jurist could dispute. The term "sun-pictures" was coined in 1845 by Henry Fox Talbot to describe his photogenic drawings of nature: "The plates of the present work are impressed by the agency of Light alone, without any aid whatever from the artist's pencil. They are the sun-pictures themselves, and not, as some persons have imagined, engravings in imitation."⁷

Seeing was no longer the inviolable scopic means by which truth-to-nature could be achieved. Sun-pictures were as close to a representation of the real as one could get. Admittedly the forces of nature could be harnessed and used by humans, but nature as pure radiant energy was not of the realm of man and therefore was deemed to be without intent to harm and incapable of duplicitous action.

Whereas in posing the question “Can the sun lie?” the court acknowledged that what was at stake was not so much the possibility that the sun could intervene and shape what is seen and how we see it, but rather that its radiant optics could be used to author a false narrative. So who then was the true witness? The human who understood not wholly what they had seen, whose eyes might have been mistaken? Or the photonic radiance of the sun whose rays cast a shadowy mirage onto panes of paper and glass but whose technical exertions were subject to the vagaries of chemistry and darkroom procedures?

The nineteenth-century court was thus both perturbed and excited by the arrival of evidentiary materials of exact recording that were derived from processes deemed to be outside the direct sphere of human intervention. The concerns around the legal use of photography were further exacerbated by the advent of the expert: “as photographic technology advanced [into the twentieth century] and the recognition of the manipulation involved in the production of the photographic work increased, scepticism as to its evidentiary value grew stronger. The legal profession’s increasing reliance on expert testimony also tarnished the photograph’s reputation for incontrovertibility, for as its use became more common, photographic experts began to face each other across the courtroom.”⁸ The arrival of the expert in court thus signals another shift in the contretemps around truth-to-nature as the human eyewitness’s ability to account convincingly for the event and the photograph’s technical capacity to record it were now both thrown into doubt, subjected to a new order of certainty produced by the domain of expertise. Nor have these historically controversial issues around the objectivity of photography, the testimony of nonhuman agents, and the opposition between lay and scientific knowledge gone away with the introduction of the digital and the development of an ever increasing range of technologies for measuring and recording the natural world. Indeed, the very lack of agreed-upon protocols governing the use of these new technologies and absence of consensus as to the interpretation of their data sets have if anything reanimated such debates. This is particularly evident within the context of climate change debates and especially so with regards to interaction between the different regimes of witnessing represented by scientific expertise and indigenous storytelling traditions. Historically considered a denigrated mode of knowledge transfer, indigenous observations and their oral transmissions are forcefully reshaping the epistemic frameworks that are

required for understanding long-term environmental transformations. A reordering of expertise and its proprietary claims on truth that turn on the evidence proffered by nature itself.

Disputed Sunset

Over the years, nobody has ever listened to these people. Every time [the discussion is] about global warming, about the Arctic warming, it’s scientists that go up there and do their work. And policy makers depend on these findings. Nobody ever really understands the people up there.

— Zacharias Kunuk⁹

In the Canadian Arctic the sun is setting many kilometers further west along the horizon and the stars are no longer where they should be. Something is happening. Sunlight is behaving differently in this part of the world as the warming Arctic air causes temperature inversions and throws the setting sun off kilter. Light is bending and deceiving eyes that have tracked the position of the sun for generations, using it as an index of place and a marker for direction. The crystalline structures of ice and snow are twisting and morphing, producing a new optical regime borne out of climate change and indigenous observations. The sun has finally become a liar, colluding with the melting topographies of the North, so much so that it can no longer be trusted to guide the Inuit hunters home as it once did.

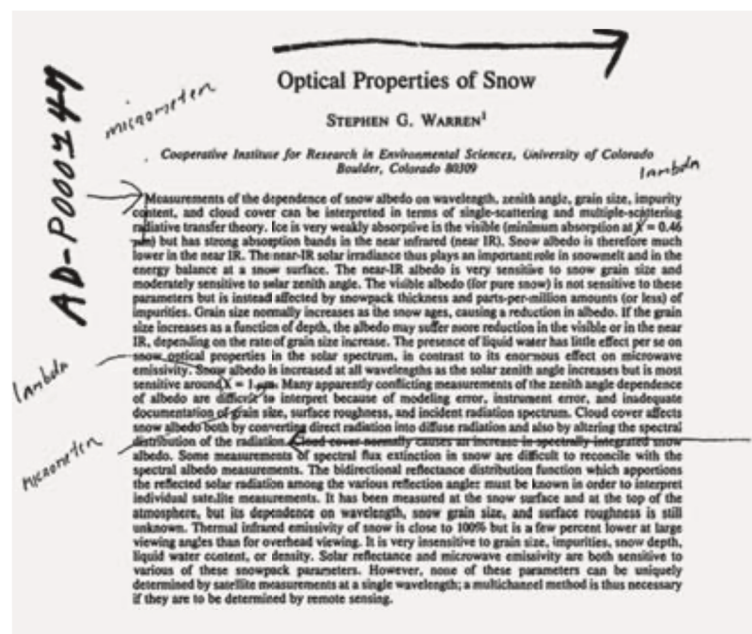


Fig. 2. (above) Found image with supplementary inscriptions suggestive of how knowledge is always a process of intervention and accretion.

The nineteenth-century suspicion directed toward the sun's capacity to mislead, to turn stable realities into distorted versions of the real, is refracted in this twenty-first-century corollary as climate change transforms the surfaces of the earth into a vast array of quasi-photographic plates, each of which is recording the atmospheric chemistry of terrestrial change differently. For the Inuit, the world that they once knew finds no analogy, no mirror image, in the world that they now see.

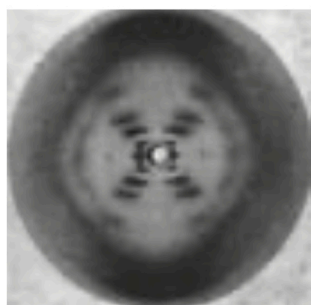


Fig. 3. (above) Photograph of snowflake, Wilson A Bentley, 1885.

Fig. 4. (below) Rosalind Franklin's celebrated Photo 51, which singularly contributed to Watson and Crick's understanding the double-helix structure of DNA. Photograph © Franklin, R. and Gosling. R.G./Nature.

In the far North this process of inscription has accelerated at between two and four times the global average and intensified as tropospheric warming and temperature inversions trap ever greater concentrations of atmospheric pollutants within particles of ice and snow, whereas previously they would have been diffused at higher altitudes. Snow and ice absorb and refract light differently. The visible spectrum of light that one can see is better refracted by snow, whereas the optical properties of ice have superior absorption capacities towards the spectrum of the near infrared.¹⁰ This is why, in part, indigenous observations of the changing pathway of the sun are made in regions covered by continuous snow. The reflectance properties of snow are governed by individual grain size, impurities, liquid water content, surface roughness, and by the depth and density of the pack. At the macroscale, cloud cover and atmospheric pollutants also combine to alter the spectral distribution of radiation. The material registration of light by silver halide particles that

came to define the photographic process is warped in a landscape where matter is out of place and sunlight lies.

Snow is fundamentally photographic. Its capacity to both be affected by and register the behavior of sunlight positions it as analogic to the wetware processes of the nineteenth century, in which the image capture of nature held primacy. In 1885, Wilson A. Bentley, a self-taught scientist, became the first person to photograph a single, unique snow crystal by outfitting a microscope with a bellows camera.¹¹ During his lifetime Bentley captured over five thousand images of snowflakes and contributed to the emergence of the field of crystal photomicrography, which would ultimately have enormous significance for the work of British X-ray crystallographer Rosalind Franklin and the discovery of the structure of DNA, the so-called blueprint for all organic life.¹² Crystallography is still an important tool for ice scientists, although the thoroughness of Bentley's work meant that new images of snow crystals were not produced for another 100 years. Not only do granular snow particles absorb and capture light, converting billions and billions of grains into a vibrating photographic plate of solar-charged particles, they also act as vast networks of finely ground crystal lenses focusing and refracting light across the polar regions. Moreover, as chemical impurities increasingly saturate the snow and temperature increases reshape the density of the snow pack and liquefy its crystalline structure, the snow also becomes a developing solution, overexposing and distorting the image of nature inscribed into land and refracted back through the atmosphere. Snow is camera lens and photographic substrate, refractive technology, and specular image. The blindness caused by snow, in reflecting ultraviolet radiation, is already a sign of the intrinsic interplay between sunlight, snow, and human vision; an entanglement that will come to signal the anthropogenic violence that now reorganizes the solar spectrum and Inuit observations under the experimental conditions of global warming.

In Zacharias Kunuk and Ian Mauro's film *Inuit Knowledge and Climate Change* (2010) several Inuit elders make the repeated observation that the setting sun has slowly been moving further west and that the location of the stars has also altered. "Has the earth shifted on its axis, they ask, causing the position of the sun and stars to change?"¹³

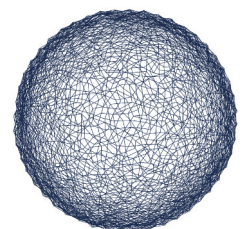
When the film was prescreened at the Copenhagen Climate Change Conference (COP15) in December 2009 it was met with a hostile reaction from the scientific community.

"We had a litany of scientists come back to us, responding after seeing this news, saying, this was great to be speaking to indigenous people about their views, but if you continue to perpetuate this fallacy that the Earth had tilted on its axis, [the Inuit] would lose all credibility."¹⁴ In short, the Inuit's deep ancestral knowledge of the environment in which they lived and the events that they had witnessed was insufficient for conferring a contingent legitimacy on their speech acts if their testimonials ran counter to widely accepted scientific truths.

The epistemic virtue of objectivity so valued by the scientific community at COP¹⁵ turned, it would appear, not on a distinction between Western rationality and native cosmology, as might be expected, but on the question of who has the authority and thus expertise to speak on behalf of science itself. The point was that the Inuit may have come to the wrong scientific conclusion based on their limited knowledge about how polarized light refraction works, but their observations were not in and of themselves flawed—their eyes had not deceived them. If anything, the duplicitous agent was one induced by southern reliance on hydrocarbon-based energy. A new sun had indeed risen at the global forum in

Copenhagen, its ferocious heat set ablaze by the relentless burning of fossil fuels in cities and factories far removed from their zones of maximum impact in the Arctic. It is this sun that the Inuit observe and now cross-examine. Climate change denial finds its allies in just such disputed sunsets and therefore it comes as no surprise that the scientists at COP¹⁵ were apprehensive about the seemingly hallucinatory narratives invoked by Inuit elders in Kunuk and Mauro's film. Yet had they paid greater attention to these stories as paradigmatic of the extreme changes that were taking place in the Arctic, and recognized that only a radical proposition might begin to explain what was going on, they would have subverted the counternarrative of the false witness in which Inuit vision was deemed fallacious and therefore open to dismissal.

The most dangerous perjurer is said to be the one who lies with the full conviction of truth. Let us, then, beware of the liar who lies in the name of the new sun.



COP15
COPENHAGEN



Fig. 5. (above) COP15 Plenary Session. Courtesy of Ministry of Foreign Affairs of Denmark, 2009.

Fig. 6. (left) COP15 Logo designed by NR2154. Courtesy of Ministry of Foreign Affairs of Denmark, 2009.