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Sabertooth Tigers of North America

Smilodon: The Iconic Sabertooth edited by Lars Werdelin, Christopher A. Shaw and H. G. McDonald [Johns Hopkins University Press, 9781421425566]

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Few animals spark the imagination as much as the sabertooth cat Smilodon. With their incredibly long canines, which hung like fangs past their jaws, these ferocious predators were first encountered by humans when our species entered the Americas. We can only imagine what ice age humans felt when they were confronted by a wild cat larger than a Siberian tiger.

Because Smilodon skeletons are perennial favorites with museum visitors, researchers have devoted themselves to learning as much as possible about the lives of these massive cats. This volume, edited by celebrated academics, brings together a team of experts to provide a comprehensive and contemporary view of all that is known about Smilodon. The result is a detailed scientific work that will be invaluable to paleontologists, mammalogists, and serious amateur sabertooth devotees.

The book:

- covers all major aspects of the animal's natural history, evolution, phylogenetic relationships, anatomy, biomechanics, and ecology
- traces all three Smilodon species across both North and South America
- brings together original, unpublished research with historical accounts of Smilodon's discovery in nineteenth-century Brazil

The definitive reference on these iconic Pleistocene mammals, Smilodon will be cited by researchers for decades to come.

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Preface

Excerpt: As people slowly gathered on the tarmac, you could sense the excitement building on May 14, 2008, a chilly early spring morning in the northern Rocky Mountains. Paleobiologists from Europe, South America, and across the United States had been brought together for the first

International Sabertooth Workshop, a three-day meeting supported by the National Science Foundation, cohosted by the Idaho Museum of Natural History and the Department of Biological Sciences at Idaho State University, with Bill Akersten and Lars Werdelin as coordinators of the workshop. The planned activities included the testing of a machine that might simulate the bite of the iconic prehistoric predator, Smilodon fatalis. University faculty, students, and members of the public were also invited to watch science and engineering in action. Under tarps in the parking lot adjacent to the university science complex lay one elk carcass and one mule deer carcass, recent casualties of highway automobile collisions, provided by the Idaho Department of Fish and Game, to test the biting mechanism (termed `Robocat' by its inventor, Todd Wheeler). The mechanism, modeled from specimens of Smilodon from Rancho La Brea, was mounted on a Caterpillar tractor and carefully positioned to function at various angles and from different directions. For each bite, scientists took careful aim with the steel mechanical jaws at one of the two alternative targets, the neck or the abdomen of the expired elk. After a few hours and numerous bites of information, there was finally a consensus: either target was plausible. Most sabertooth cat specialists (for whatever reason) still favor one site over the other, but as so aptly stated by one colleague, "We know they bite like that, only faster." By the time the carcass biting was concluded, most of the gathered crowd had dispersed, looking for their own bite to eat.

The International Sabertooth Workshop was a think tank to discuss a number of issues related to sabertooth carnivores: (1) free access to databases and/or construction of a separate dedicated database; (2) areas of further research potential for anatomical and physiological analyses, hunting and other proposed behaviors, past environments, and extinction; (3) educational outreach with the creation of teaching kits and traveling exhibits; and (4) the production of scientific and lay publications to help disseminate up-to-date knowledge about these fascinating creatures. Folded into the workshop was a symposium featuring the latest research on sabertooth carnivores and an interactive exhibition on sabertooth cat paintings

and sculpture by renowned artist Mark Hallett, along with the bite test previously mentioned.

Smilodon: The Iconic Sabertooth grew from a seed planted during this workshop, and many of its authors were attendees. However, it was at the 71st annual meeting of the Society of Vertebrate Paleontology held in Las Vegas in 2011 that the book began to take shape. The original intention was to summarize and update some of the classic research in addition to presenting new studies of the iconic sabertooth cat, Smilodon. As such, this volume is diverse in its contributions and includes summaries of the history of discoveries, phylogenetics, killing biomechanics and engineering, skull and postcranial morphology, and paleopathology. New studies include two faunas containing Smilodon in South America (Peru and Chile) and one in South Carolina, as well as a fascinating report on ontogeny and growth in Smilodon and yet another on the dietary ecology of this animal. At the time of the first workshop, it was proposed that others would follow, but none have yet been scheduled. Perhaps this book will provide the motivation to organize another, similar workshop to discuss the foundation laid by the first and to scrutinize what progress has been made since that cool spring morning in Pocatello, Idaho. ***

The enlargement of the canine has occurred independently in a number of mammalian lineages, including the carnivores, with the felids, nimravids, a creodont (Machaeroides simpsoni), and even a member of the Sparassodonta in South America (Thylacosmilus atrox); there are even some herbivores, such as the uintatheres as well as fossil (Blastomeryx primus) and living cervids like the water deer (Hydropotes inermis). Although the function of the enlarged canine was certainly different between the carnivores and herbivores, in both groups the role of the enlarged canine in each fossil taxon's ecology has resulted in much discussion and disagreement. Part of this discussion is because the degree of enlargement of the carnivoran canine varies considerably among taxa, resulting in various descriptors such as 'dirk-tooth,' `scimitar-tooth,' and the best-known term, `saber-tooth.'

Since all sabertooth carnivorans are extinct and lack any modern functional equivalents, the

enlarged canine so distinctive of the `sabertooth cats'—a term also often used broadly to include the nimravids—has attracted much attention and speculation in terms of its function and its relationship to the species' ecology. This functional niche has been filled by various groups of placental carnivores, starting with the earliest appearance of the creodont Machaeroides simpsoni in the Eocene (Dawson et al., 1986). Many of the questions center on both its function and adaptive value. The well-known Smilodon was among the earliest of the sabertooth cats to be described, but it was not the first. That honor goes to Megantereon (1828), followed by Machairodus (1833). Smilodon (1842) was the third genus of sabertooth, still considered valid today, to be described.

Perhaps the best known of the sabertooths, the genus Smilodon was first described in 1842 by P. W. Lund (1801-80) as Smilodon populator. However, the material on which the genus was based was not the first remains of this animal to be discovered. Lund had previously referred specimens now known to be the remains of Smilodon to a new species of Hyaena, H. neogaea. Although the name Smilodon neogaea has been used by some workers, Lund provided neither a description nor definition of the taxon, nor did he list the specimens on which the name was based. As no illustrations of these specimens were provided, the name is considered a nomen nudum.

Prior to the discovery of fossil vertebrates at Rancho La Brea and the extensive excavations that followed, with the rare exception of the type of Munifelis bonaerensis based on a nearly complete skeleton, most of the known remains of Smilodon consisted of fragmentary specimens. In 1907, the staff at the Museo Argentino de Ciencias Naturales "Bernardino Rivadavia" mounted a cast of the Smilodon skeleton found by Muniz, but the original skeleton was never exhibited; the skull and the mandible appeared in a separate display. Ameghino (1907) included a photo in an article published about this mounted skeleton. Nearly a hundred years after its original description by Muniz, Méndez-Alzola (1941) described the skeleton in detail. The original cast of the skeleton was later removed from exhibition and replaced by a modern cast. A photo of the old cast before it

was dismounted is provided in Figure 1.7. It is not exactly in the original pose, as it was slightly modified in the 1990s. A plaster cast of the skeleton of Smilodon populator (MLP 7-47) is on exhibit at the Museo de la Plata (Sala VIII), established in 1888. The cast was probably sent to the museum by Florentino Ameghino, who at the time was director of the Museo Argentino de Ciencias Naturales (1902-11). A label on the Museo de la Plata cast says (translation): "The nearly complete skeleton was completed with casts from the MLP and the American Museum of Natural History." The entrance to the museum is flanked on either side by reclining statues of Smilodon sculpted by Victor de Pol (1865-1925). In front of the main entrance of the museum and behind the Francisco Pascasio Moreno bust is a mural of Smilodon painted by the French landscape architect Émile Bonnet Coutaret (1863-1949) in 1922.

In 1875, William Denton, a geologist/paleontologist, recognized the presence of animal remains from the asphalt deposits at Rancho La Brea, California, and was presented with a canine of Smilodon by the owner, Henry Hancock. Unfortunately, the current location of this canine is unknown. Denton (1877) reported on the site and described the canine in a letter published by the Boston Society of Natural History (p. 1859: "Major Hancock presented me with what I found to be a canine tooth of Machairodus, a great saber-toothed feline.... The tooth is nine and half inches in length, measured along the curve, and the breadth of the crown at the base is an inch and three-quarters, being larger than any tooth of the European Machairodus, whose measurement I have been able to find. The crown of the tooth is broken, and its entire length could not have been less, I think, than eleven inches.... The Californian tooth is closely serrated on both the concave and convex sides."

There was no follow-up at Rancho La Brea to this initial discovery until 1901 when W. W. Orcutt visited the site; by 1905 Orcutt had accumulated a modest collection of the fauna, including additional remains of Smilodon. In 1906 the Museum of Paleontology at the University of California, Berkeley, carried out a preliminary exploration of the site and J. C. Merriam subsequently returned in 1912 for a larger excavation, which lasted into

1913. J. Z. Gilbert started excavating at Rancho La Brea in 1907 under the auspices of the Los Angeles High School. The Southern California Academy of Science initiated work in 1909, and their efforts resulted in the creation of the Museum of History, Science, and Art (now the Natural History Museum of Los Angeles County), which for many years used a representation of Smilodon as their logo. The Southern California Academy collection was transferred to the museum in 1911 and was incorporated into the displays when the museum opened in 1913. Its involvement at Rancho La Brea is commemorated by the use of the skull of Smilodon as part of the academy's logo.

In 1924 G. Allan Hancock, the son of Major Hancock, who had presented the Smilodon canine to Denton, donated 23 acres containing the tar pits to Los Angeles County, and Hancock Park was established. As part of the park development a `Pleistocene Zoo' composed of life-size concrete statues of the fauna from Rancho La Brea was built for the park, sculpted by J. L. Roop (1869-1932); these statues included a pair of fighting Smilodon (Fig. 1.9) and a Smilodon standing on the back of a bison trapped in the tar (McNassor, 2011). Further popularization of Smilodon occurred when, on September 25, 1973, Smilodon californicus was officially made California's state fossil. However, the legislation did not provide for subsequent taxonomic changes as when in the following year Webb (1974) made Smilodon californicus a junior synonym of Smilodon floridanus, resulting in the California state fossil being named after Florida.

After the University of California, Berkeley, excavation (1912-13), the newly created natural history museum in Los Angeles was given sole right in 1913 to excavate for two years. In 1924, Major Hancock deeded the land to Los Angeles County. Additional museum excavations took place in 1929, with a hiatus until 1969 when excavation resumed at Pit 91 and has continued to the present, complemented by other excavations resulting from construction projects in the vicinity of Hancock Park. Consequently, additional remains of Smilodon continued to be found, and in 1932 John C. Merriam and Chester Stock published a monograph on the fossil cats of Rancho La Brea that included the first comprehensive description of the skeleton of Smilodon. Marcus (1960) reported 987 individuals of Smilodon from just the 7 major pits at Rancho La Brea, and Miller (1968) utilized over 2,100 skulls from La Brea in his study of the age distribution of Smilodon from Rancho La Brea. Despite ongoing discoveries at the site, only a single semi-articulated skeleton representing 71% of the animal has been recovered, lacking only most of the bones of the hind feet. The specimen was recovered from a thin tabular asphaltic deposit discovered as part of salvage operations during the construction of the Page Museum in Hancock Park.

The excavations at Rancho La Brea have recovered literally thousands of Smilodon bones. While Rancho La Brea is the premier locality for Smilodon fatalis in North America, the species is known from more than forty Rancholabrean sites distributed across Alberta, Arkansas, California, Florida, Idaho, Louisiana, Mexico, Nebraska, New Mexico, Oregon, Tennessee, Texas, and Utah (Kurtén and Anderson, 1980). There is only a single record in Central America, the Hormiguero quarry in El Salvador (Stirton and Gealey, 1949) but its range extends southward into Venezuela, Ecuador, and Peru. Most records consist of isolated bones and teeth and only rarely of a partial skeleton. The large sample from Rancho La Brea quickly transformed Smilodon from an obscure taxon represented by bits and pieces to one for which virtually every bone is known, including the vestigial clavicles.

Eugene J. Fischer, a preparator and taxidermist at the Los Angeles Museum of History, Science, and Art, mounted the first full skeleton of a North American Smilodon. Two composite skeletons were mounted in 1910 and 1911, utilizing specimens from Rancho La Brea, one for the museum, which opened to the public in 1913, and a second for Los Angeles High School (Scott, 1992). A third skeleton of Smilodon was mounted by Fischer in 1920. Although Smilodon is the second most common carnivore from Rancho La Brea, like virtually all of the rest of the fauna it is represented by disarticulated remains, and associated skeletons or even parts of skeletons are rare. The volume of material recovered from Rancho La Brea allowed the Museum of Paleontology at University of California, Berkeley, and the Natural History Museum of Los Angeles County to send complete

(although composite) skeletons of Smilodon to multiple museums around the world (e.g., Barthel, 1966). Today at least twenty-five skeletons of Smilodon fatalis from Rancho La Brea are on display or have been on display at museums around the world (C. A. Shaw, pers. comm., 2016). The many composite original bones of skeletons exchanged with museums initially made a major contribution to museum visitors' familiarity with Smilodon; in recent years its continued popularity for museum exhibits has been greatly augmented by the active production of casts of skeletons based on specimens from Rancho La Brea. This in turn has certainly contributed to making it the best-known Pleistocene carnivore and firmly establishing it in the popular mind and culture.

Remains of Smilodon continue to be discovered (Scott and Springer, 2016) and some of these discover¬ies in turn continue to spark interest in the animal through its incorporation into popular culture. In May 1971, during an excavation in downtown Nashville, Tennessee for what is today the 28-story First American Center, construction workers drilled through 20 feet of solid rock before coming to a soft muddy area. Further digging revealed a cave containing the canine and other parts of the skeleton of an individual of Smilodon (Guilday, 1977). The cave, located beneath the building, has been preserved under concrete for historic and educational pur¬poses. Twenty-six years after this discovery, The Predators, Nashville's hockey team, unveiled their logo, a `saber-toothed tiger,' at the First American Center on September 25, 1997.

As we hope this volume shows, we still have much to learn about the paleoecology, natural history, functional anatomy, behavior, and evolu-tionary history of Smilodon, and there is certainly more information to extract from the fossil record (McCalla et al., 2003; Carbone et al., 2009). As can be seen from these contributions, new technologies such as stable isotope analysis (Prevosti and Martin, 2013; Bocherens et al., 2016) or the recovery of ancient DNA (Barnett et al., 2005) provide new approaches to elucidating its natural history. We hope this volume will not only serve as useful reference for future research but may also prove to be equally useful to artists (e.g., Antón et al., 1998) and animators who produce

images of these animals not only for documentaries but for animated movies, and continue to make Smilodon a part of the popular culture. Indeed, Smilodon has even appeared on the stamps of multiple countries (http://www.owasu.org/primer_files/sabretooth.pdf). We also hope that this volume will be of interest to members of the public who want to know more about Smilodon and that it will enhance their understanding of this iconic sabertooth cat.

[The Goddess Pose: The Audacious Life of Indra Devi, the Woman Who Helped Bring Yoga to the West](#) by Michelle Goldberg [Knopf, 9780307593511]

When the woman who would become Indra Devi was born in Russia in 1899, yoga was virtually unknown outside of India. By the time of her death, in 2002, it was being practiced everywhere, from Brooklyn to Berlin to Ulaanbaatar. In [The Goddess Pose](#), New York Times best-selling author Michelle Goldberg traces the life of the incredible woman who brought yoga to the West—and in so doing paints a sweeping picture of the twentieth century.

Born into the minor aristocracy (as Eugenia Peterson), Devi grew up in the midst of one of the most turbulent times in human history. Forced to flee the Russian Revolution as a teenager, she joined a famous Berlin cabaret troupe, dove into the vibrant prewar spiritualist movement, and, at a time when it was nearly unthinkable for a young European woman to travel alone, followed the charismatic Theosophical leader Jiddu Krishnamurti to India.

Once on the subcontinent, she performed in Indian silent cinema and hobnobbed with the leaders of the independence movement. But her greatest coup was convincing a recalcitrant master yogi to train her in the secrets of his art.

Devi would go on to share what she learned with people around the world, teaching in Shanghai during World War II, then in Hollywood, where her students included Gloria Swanson and Greta Garbo. She ran a yoga school in Mexico during the height of the counterculture, served as spiritual adviser to the colonel who tried to overthrow Panamanian strongman Manuel Noriega, and, in her eighties, moved to Buenos Aires at the invitation of a besotted rock star.

Everywhere she went, Indra Devi evangelized for yoga, ushering in a global craze that continues unabated. Written with vivid clarity, The Goddess Pose brings her remarkable story—as an actress, yogi, and globetrotting adventuress—to life.

 Never would have started doing yoga if there had been aerobics in the Himalayas, but I was desperate.

The few times I'd taken yoga classes in college, my failed attempts to relax redoubled my anxiety. Each pose was a reminder of the lifelong inflexibility that had often mortified me. When I was a little girl, a sadistic ballet teacher barred me from a holiday party because of my terrible splits. In elementary school, I dreaded being forced to sit "Indian style," because it left my hips and back screaming. Later, trying yoga, my awkward efforts to keep my legs and back straight while touching my toes and my inability to do even a half lotus only left me tense and humiliated, convinced that the practice was best for those who were already calm, willowy, and graceful.

Besides, while I'd been captivated by India's kaleidoscopic religious richness during months of traveling, I was wary of anyone purporting to peddle enlightenment to credulous Westerners. On my first trip to the country, a short backpacking sojourn in the late 1990s, I'd read and loved Gita Mehta's Karma Cola, a wry Indian look at the Western spiritual tourists who flock to the subcontinent, and the enterprising Indian sages who've risen to meet the demand. "As our home industry expands on every front, at last it is our turn to mass market," she writes. The hippie spiritual scene interested me as a journalistic subject, but I certainly didn't want to participate in it. I wasn't sure if I could even chant "Om" with a straight face.

Yet, I needed exercise. Living in McLeod Ganj, a mountain village just outside the city of Dharamsala, where the Tibetan exile movement was headquartered, I was sick of hiking. My husband and I—we'd eloped the previous year, when I was twenty-four and he was twenty-eight— were about six months into what would be a year-long trip through Asia. Prior to our departure, he'd worked at an Internet start-up. When he cashed out his stock options before they bottomed out in the crash of the late 1990s, we became Internet

thousandaires, with a sum in the low five figures that seemed, at the time, to be a fortune. Both of us loved to travel. Putting all our stuff in storage, we flew to Ho Chi Minh City.

After three months bumming around Southeast Asia, we went from Singapore to the tip of the Indian state of Tamil Nadu, then west to the relatively idyllic state of Kerala, where, while lying on a beach, we were approached by movie producers looking for extras for an Indian musical. They were shooting a scene in an ashram, and since no Indian ashram is complete without a handful of flaky Westerners, they asked for our help. Delighted, we agreed. On set, we met a thirty-two-year-old Argentine devotee of the real-life guru Sai Baba, about whom I'd long been curious. His followers believe he's God, and I'd seen his face, beaming beneath his surprising Afro, on stickers and trinkets for sale all over the country. A former medical student, the Argentine had given up her studies and her Buenos Aires apartment after dreaming that Sai Baba summoned her to India.

Later, as we snaked our way north, we visited her at Sai Baba's enormous Prasanthi Nilayam ashram, in a barren corner of Andhra Pradesh, one of India's poorest states. The ashram boasted a shiny planetarium, two hospitals that treated patients for free, a college, a music school, and a brand-new airport for wealthier devotees with private planes. Around the edges, luxury apartment buildings were replacing mud huts. Rather than requesting two of the ashram's ten thousand beds, we checked into a nearby hotel. Every afternoon, a loudspeaker piped in music praising the guru. When I bought a pen at a local shop to take notes, it had Sai Baba's smiling face on it.

There was an ambient spiritual hysteria at Prasanthi Nilayam. At dinner one evening, a devotee we'd become friendly with pointed out an Austrian woman tugging her listless seven-year-old son behind her. She was in the midst of a spiritual crisis because she'd had a dream in which Sai Baba instructed her to abandon the boy and live on the streets as a beggar, and she didn't know if she had the "strength" to do it. As far as I could tell, no one at the ashram was stepping forward to discourage her.

I also heard rumors of sexual abuse and was shocked to meet old hands at the ashram who accepted these stories as true, though they interpreted the molestations as part of Sai Baba's divine mission. One man, an American ex-motivational speaker, thought they were part of Baba's plan to spread his message. "Probably more people are going to know about you if there are allegations that you're a pedophile than if you say God is incarnated on earth," he told me. I ended up writing a story about all this for Salon. It didn't leave me any more eager to find a guru.

Arriving in McLeod Ganj, weeks later, my husband and I saw a flyer seeking volunteers to teach English at a school for Tibetan refugees. After months of lassitude, we were thrilled and relieved at the chance to be useful and threw ourselves into the work. Settling down for several months in the sweet, peaceful little town, blessedly cool after months on the roasting plains, I realized I needed to get in shape. Most travelers who wander around India on the cheap lose weight, but I have an iron stomach, as well as a weakness for nan and paneer tikka masala. There was a three-hour ashtanga-based yoga class that met early every morning in a gymnasium near the center of town, and I signed up for it.

It was excruciating. I didn't know it at the time, but ashtanga was initially based on exercise routines developed for teenage boys. The jump-backs we did between poses—like squat-thrusts followed by half push-ups—were channels for an animal energy I'd never possessed. The contortions required for binding poses were out of reach, the inversions terrifying, and I still couldn't do a split, but I kept going back, at first because I wanted to lose weight, then because my friends in town were also going, and finally because it left me feeling fantastic.

A lot of the credit goes to my teacher, Vijay, a Gumby-limbed South Indian who toss his ankle behind his neck as casually as if he were flinging a scarf. Vijay had very few pretensions. Once, catching me smoking a cigarette, he plucked it out of my fingers—and then started puffing on it himself. "Vijay, what are you doing? You're a yogi!" I cried. "Michelle," he said to me with a gleam in his eye, "I'm not a yogi. I'm a businessman." I appreciated this sort of candor.

Before I left India, Vijay said to me, "Smoking won't interfere with your yoga, but yoga will interfere with your smoking." This turned out to be true; a year later, I quit. By then, my husband and I were living in Brooklyn. I was working as a journalist and writing about politics, which often left me knotted and angry. Yoga became a refuge. Sometimes I practiced four or five times a week. In the ritual and community of classes, I began to sense some of the consolation that others find in religion. Though still not a believer in anything supernatural, I felt the benefits of stepping outside the rush of ordinary life and trying to attune myself to a higher state of consciousness, however inchoate and fleeting. The discipline paying attention to the habitual way your thoughts unfold, to the familiar grooves of your mind, seemed like cognitive therapy, but cheaper. I loved that I could find psychological solace and a workout at the same time.

I would never be lithe or supple, but I learned to do things with my body that I hadn't thought possible. Occasionally, I would even feel that there was something ploathing in the tedious I'd always felt forever-skinny frame, since without that loathing, I might never have taken up yoga in the first place. But while I loved Yoga I also wondered about it. The claims made for the curative powers of certain poses—the idea that one specific arrangement of limbs could treat depression, another fight headaches or PMS—seemed almost magical. I cringed at the way some of my American teachers romanticized India, a country that, for all its religious magnificence, can also be a place of staggering brutality. And I knew that despite descriptions of postural yoga as a quintessentially Indian discipline, the sweaty, fast-paced style I was practicing in New York was hard to-find outside of tourist enclaves on the subcontinent. Everyone in my yoga class back in McLeod Ganj had been from the United States, Europe, Australia, or Israel. Vijay told me his own teacher had been a Frenchman. The Indian yogis I encountered, by contrast, tended to be dreadlocked mendicants practicing torturous physical austerities—standing on one leg for days, sleeping on a bed of nails—that seemed a universe away from anything one learns in a modern yoga class.

Among Western yogis, the standard explanation for the relative scarcity of their style of yoga in India is that most Indians have lost touch with their heritage. Still, I was curious what exactly the connection was between the ash-covered sadhus I'd seen contorting themselves on the banks of the Ganges in Benares and the invigorating stretches, lunges, twists, and handstands I practiced first in McLeod Ganj and then in ninety-minute sessions on a rubber mat in Brooklyn. I started looking around for a book or an article that would explain it. And at some point, I came across the New York Times obituary for Indra Devi.

"Indra Devi, the daughter of European nobility who introduced the ancient discipline of yoga to the Kremlin leadership, Hollywood stars like Gloria Swanson and even students in India, died on Thursday in Buenos Aires," the obit began. "She was 102." The piece explained that she'd learned from the same guru as B. K. S. Iyengar and K. Pattabhi Jois, yoga masters I'd heard about from serious students in India. It described her life as a Berlin cabaret performer and an actress in early Indian cinema. According to the obituary, she taught "what was thought to be the first yoga class in modern China" and wrote the first book on yoga by a Westerner to be published in India.

In Indra Devi's story, I thought, I'd find the answers I was looking for. So I began to trace the path of her strange, occasionally inscrutable, and often epic life. As I'd hoped, that life does indeed give us a way to understand where yoga as we practice it in the West came from, showing both its links to an ancient Indian tradition and its wild discontinuities. It reveals how the discipline has been shaped by long dialogue among India, Europe, and America. In a strange way, following the serpentine tale of Devi's life and teachings resolved whatever anxiety I had had about modern yoga's authenticity, because it showed that there's never been a pristine, eternal tradition to corrupt.

The narrative of Devi's life, however, is much more than the story of yoga in the West. As I dove into it, I felt that I was discovering a secret sideways history of the twentieth century. Devi was a Zeliglike figure, an esoteric female Forrest Gump who seemed to show up wherever tumultuous world events were unfolding. Her story moves through the Russian Revolution, the cabarets of Weimar Berlin,

the Indian independence movement, the World War II Japanese occupation of Shanghai, and Hollywood during its 1950s heyday. She pops up, somewhat randomly, in Dallas when JFK was shot and then in Saigon when the Vietnam War was raging. That ashram I visited in Andhra Pradesh? It turns out that she was the one who spread Sai Baba's fame across the West. She crossed paths with Gandhi, Greta Garbo, and John Lennon. As spiritual adviser to Manuel Noriega's second-in-command, her name appears in most histories of the U.S. invasion of Panama.

It's an astonishing story, and once I started trying to write it, I realized why no one had told it before. What source material exists is scattered in archives, old newspapers, government files, and friends' houses all over the world. Some is in English, but some is in Russian, Czech, German, Polish, and Spanish, and the last is the only one of the languages in which I have any facility. Devi published several books, including, when she was one hundred, a Spanish language memoir titled Una mujer de tres siglos, or "A Woman of Three Centuries." Her autobiographical writing, however, is highly selective, full of large gaps. In her memoir, there are fewer than eight pages about her eight years in China. Some important incidents are ignored entirely.

In parts of this book, I had no choice but to use Devi's own version of events as my guide. But I also dug up old letters and mentions of her in out-of-print books. I obtained her confidential FBI file—J. Edgar Hoover, not surprisingly, had his eye on her—and the service record of her diplomat first husband. I hired a researcher to help me navigate archives in Riga, Latvia, where she was born, and in Berlin. In addition to those countries, I traveled to India, Argentina, Mexico, and Panama. I spent a lot of money on professional translators, sometimes not knowing whether the material would be useful until after I read it in English. Even after all this, lacunae remain. Most of the people who knew Devi in life found her, on some level, ungraspable, and she remains elusive in death.

This is partly because she had so many identities. Again and again, she would build a life for herself and then discard it when it no longer suited, moving on with no discernable effort or regret. You can see her talent for rebirth in how often she changed her

name. Born Eugenia Peterson, she was also known as Eugenie and Jane, and later Indira and Indra, all in combination with various surnames. For her, constant openness to change was a spiritual precept, though it also marks her as a very modern sort of celebrity. (In the pages that follow, I will refer to her as Eugenia until she arrives in Hollywood and officially becomes Indra Devi.)

Many people who knew her spoke to me, including two close friends who themselves had tried, unsuccessfully, to write the story of her life, and who generously shared everything they'd learned. (A writer named Natalia Apostolli was finally able to produce a Spanish-language biography of Devi in 1992. Titled Una vida, un siglo, or "One Life, One Century," it is based almost entirely on Devi's stories and recollections.)

Some of those who loved her and who helped me will be disappointed in this book. To them, she was nearly divine. I see her as a complicated, audaciously modern, sometimes inspiring, and sometimes maddeningly irresponsible woman, not as a spiritual exemplar.

 Indeed, the more I learned about Devi, the more I doubted that her ethic of nonattachment, an idea often bandied about in yoga classes, was truly compatible with passionate loyalty to other people. In "Reflections on Gandhi," published a year after the Mahatma's assassination, George Orwell writes, "In this yogi-ridden age, it is too readily assumed that `non-attachment' is ... better than a full acceptance of earthly life ... If one could follow it to its psychological roots, one would, I believe, find that the main motive for `non-attachment' is a desire to escape from the pain of living, and above all from love, which, sexual or non-sexual, is hard work." This opinion is reductive, but after spending years researching Devi's life, which is in many ways a triumph of nonattachment, I don't think Orwell was entirely wrong.

Yet yoga remains as important to me as ever. My yoga classes even helped me deal with the doubts about yoga that occasionally emerged while I was writing this book. I think this is why the practice is such a comfort to secular urbanites like me—it's a technique, not a faith. You don't have to believe in anything, even yoga itself, to find joy and solace in the conscious joining of breath and movement, or

relief in slowing the whirling of the mind. You just have to do it.

Devi played a huge role in teaching the world to do yoga. For that, I'm not only fascinated by her, but also grateful. She, more than any cave-dwelling ascetic or Brahmin sage, is the godparent of a practice that has had an enormous impact on contemporary culture as well as on my own wholly worldly life.

Why to Kill a Mockingbird Matters: What Harper Lee's Book and the Iconic American Film Mean to Us Today by Tom Santopietro [St. Martin's Press, 9781250163752]

Tom Santopietro, an author well-known for his writing about American popular culture, delves into the heart of the beloved classic and shows readers why To Kill a Mockingbird matters more today than ever before.

With 40 million copies sold, To Kill a Mockingbird's poignant but clear eyed examination of human nature has cemented its status as a global classic. Tom Santopietro's new book, Why To Kill a Mockingbird Matters, takes a 360 degree look at the Mockingbird phenomenon both on page and screen.

Santopietro traces the writing of To Kill a Mockingbird, the impact of the Pulitzer Prize, and investigates the claims that Lee's book is actually racist. Here for the first time is the full behind the scenes story regarding the creation of the 1962 film, one which entered the American consciousness in a way that few other films ever have. From the earliest casting sessions to the Oscars and the 50th Anniversary screening at the White House, Santopietro examines exactly what makes the movie and Gregory Peck's unforgettable performance as Atticus Finch so captivating.

As Americans yearn for an end to divisiveness, there is no better time to look at the significance of Harper Lee's book, the film, and all that came after.

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To Kill a Mockingbird is a great book now, it was a great book yester-day, and it will be a great book tomorrow. —James McBride, National Book Award—winning author of The Good Lord Bird

To Kill a Mockingbird is the best of American literature because it tells us who we are, who we can be, and it paints the communities we lived in in vivid, truthful detail. I mean, if that's not art or our highest dreams for literature, for storytelling, I don't know what is. —Adriana Trigiani, novelist and filmmaker

The one thing that doesn't abide by majority rule is a person's conscience. —Atticus Finch in To Kill a Mockingbird

The two most important aspects of my father's life were when he met my mother and when, in 1961, Alan Pakula and Bob Mulligan sent him the book To Kill a Mockingbird. That became the defining role of his career. —Cecilia Peck at the Academy of Motion Picture Arts and Sciences tribute to her father, Gregory Peck

On the late afternoon of April 8, 1963, exactly six days after the Reverend Dr. Martin Luther King, Jr., launched a new nonviolent campaign to end segregation in Birmingham, Alabama, and four days before the future Nobel Peace Prize winner was arrested for leading a protest march, Gregory Peck stood in front of his mirror, dressing for the thirty-fifth annual Academy Awards ceremony.

Nominated as Best Actor for his role as attorney Atticus Finch in To Kill a Mockingbird, the just-released film based upon Harper Lee's bestselling novel of the same name, Peck found himself at a once-in-a-lifetime juncture unusual even for a film star of his stature: Acclaimed by both critics and audiences for a role that managed to meld an already beloved fictional character with basic aspects of his own essential personality, he was starring in that rarest of films, one that had actually caught the zeitgeist.

To Kill a Mockingbird, it seemed, had tapped into a fervent national desire, at least outside of the Deep South, for a better, more egalitarian America, and, in the figure of Atticus Finch, presented a man Americans of every stripe wanted to believe reflected their own essential decency. It wasn't true, of course—no one outside of Gandhi himself actually possessed such rock-ribbed moral certainty—but that representational ideal had clearly and unequivocally begun to cast a longer and more powerful shadow with each passing week.

If, a scant seven months earlier, James Meredith, a twenty-eight-year-old black air force veteran, had tried to enroll at the University of Mississippi only to find the door blocked by Ross Barnett, the governor of Mississippi, and if, five days after that, Meredith arrived again, this time with 536 U.S. marshals as escorts/protection, then how and why had a slim novel and its small black-and-white film adaptation taken ahold of the national consciousness in a way few, if any, previous novels had managed? The furthest thing from epic, and the antithesis of Gone with the Wind 's romanticized view of southern cavaliers and genteel ladies as guardians of civilization, Mockingbird's deceptively gentle, seemingly nostalgic evocation of a long-vanished southern childhood had ultimately proved nothing less than an indictment of the American character. Yet far from being put off, readers and viewers alike had embraced the material with a fervor that kept the novel at the top of the bestseller lists, floored Harper Lee, and infuriated several high-toned critics. What, exactly, had Harper Lee wrought?

For starters, a multigenerational national discussion of race in a way no one—publisher, author, and filmmakers alike—had ever anticipated. A

discussion that seemed to gain, not lose, power with each passing week that Mockingbird continued to spend on the bestseller lists. A conversation that also slyly upended traditional notions of femininity, regionalism, and the very idea of what constitutes a "real" family. All this from a book that took Harper Lee the better part of a decade to write, found only one eager publisher, and initially elicited no interest from any of the major Hollywood studios.

Any such thoughts that might have flashed through the racing mind of the courtly, avowedly political Peck on this most important night of the year in Hollywood were quickly banished. Instead, the handsome actor adjusted his elegantly tailored tuxedo, called out to his beautiful wife, Veronique, that it was time to leave for the Santa Monica Civic Auditorium, and grasped the most important finishing touch of all: the gold pocket watch that had belonged to A. C. Lee, Harper's father and the unquestioned inspiration for the character of Atticus Finch. Glancing once more at the inscription on the back of the watch—"To Gregory from Harper"—Peck walked down the stairs and out to his waiting car.

A mere four hours later, his life would never be the same again, nor, in a not so insignificant way, would the discussion of America's original national sin: slavery. A change in the country's consciousness because of To Kill a Mockingbird? The ever-practical Nelle Harper Lee would have laughed at the mere idea back in the late 1950s, when her noticeably different, wildly uneven novel bore the name Go Seta Watchman. Back when she wanted to write—had to write—her way out of her small, beautiful, and stifling hometown of Monroeville, Alabama.

[Uncensored: My Life and Uncomfortable Conversations at the Intersection of Black and White America](#) by Zachary R. Wood [Dutton, 9781524742447]

Rooted in his own powerful personal story, twenty-one-year-old Zachary Wood shares his dynamic perspective on free speech, race, and dissenting opinions--in a world that sorely needs to learn to listen.

As the president of the student group Uncomfortable Learning at Williams College, Zachary Wood knows all about intellectual controversy. From John Derbyshire to Charles Murray, there's no one Zach refuses to debate or engage with simply because he disagrees with their beliefs--sometimes vehemently so--and this controversial view has given him a unique platform on college campuses and in the media.

But Zach has never shared the details of his own personal story, and how he came to be a crusader for open dialogue and free speech. In Uncensored, he reveals for the first time how he grew up poor and black in Washington, DC, in an environment where the only way to survive was to resist the urge to write people off because of their backgrounds and their perspectives.

By sharing his troubled upbringing--from a difficult early childhood filled with pain, uncertainty, and conflict to the struggles of code-switching between his home in a rough neighborhood and his elite private school--Zach makes a compelling argument for a new way of interacting with others, in a nation and a world that has never felt more polarized. In [Uncensored,](#) he hopes to foster a new outlook on society's most difficult conversations, both on campus and beyond.

Freedom of speech and the seemingly impenetrable liberal and conservative echo chambers are urgent, hot-button issues that are redefining our understanding of democracy. At the center of the dispute is twenty-one year old advocate Zachary R. Wood, and Dutton is proud to publish his indispensable memoir, [Uncensored: My Life and Uncomfortable Conversations at the Intersection of Black and White America.](#)

When Wood was a sophomore at Williams College, he found himself in the national spotlight after giving highly controversial speakers a platform for debate on campus. Though Wood is a self-identified liberal Democrat, he is also an outspoken advocate for debate of all opinions, and

he believes that the only way to bridge the gap in our divided nation is by listening to one another rather than tuning out dissenting viewpoints.

"At Williams, Wood was the president of the student group Uncomfortable Learning, an organization whose goal was to bring thought-leaders in various fields onto campus for conversation and debate. Wood surprised his friends, peers, and faculty when he extended a speaking invitation to the openly bigoted author and journalist John Derbyshire (followed by invitations to other equally controversial speakers). The invitations sparked hundreds of hurtful and even violent reactions from his fellow classmates. Ultimately, the college president cancelled Derbyshire's talk, and Wood became a media star overnight defending his invitation to Derbyshire on national news outlets and in viral op-eds. Less than a month ago, Wood spoke on the TED mainstage in Vancouver and his talk, "Why It's Worth Listening To People You Disagree With," has already received over one million views.

Now, for the first time, Wood is ready to share the powerful personal journey that led him to being the ambitious and outspoken activist that he is today. In UNCENSORED, Wood explores the impact of his difficult childhood and how it shaped his dynamic perspective on free speech.

Wood speaks about

How his childhood circumstances necessitated open-mindedness: Wood's family struggled to get by in Washington DC, but he also attended an elite private school, where he learned that the only way he could survive was to resist the urge to write someone off because of their backgrounds and attitudes; How, as a progressive liberal, Wood is fighting against the "liberal echo chamber": the majority of college campuses in the US are liberal-leaning, but unless students are forced to understand their own beliefs and the other side of the argument, they won't be able to support those beliefs in the real world;

The alarming suppression of free speech on college campuses: how campus culture has become intolerant of free speech when that speech consists of ideas deemed "wrong" — and why this is problematic;

Millennial activism: the current goals, visions, challenges, and achievements, and what strategies for achieving social change on and off campus have been effective or show promise;

Race and inclusion in higher education: What challenges do minority students from low income backgrounds face in college and what can be done;

Where we go from here: Wood examines how open discussion can affect change and provides a model for how we can implement this change in our own lives For readers of Trevor Noah's Born a Crime, Cory Booker's United and Thomas Chatterton Williams' Losing My Cool, UNCENSORED is a candid and compelling memoir that provides a critical perspective on a topic of national importance. We hope you will consider an interview or profile on Zachary R. Wood around the publication of UNCENSORED. We look forward to being in touch.

"Do black people come from apes?" a high school friend of mine asked, looking me in the eye. His dad had told him about Charles Murray's book The Bell Curve, which links intelligence to race and class in America. "You know, black people are always god at four things," my friend continued, "running, jumping, stealing, and shooting."

At the elite private school, I attended, which took two hours to get to by public transportation, I sometimes heard these types of comments. These same students would call the neighborhood I grew up in poor, and though it was dangerous and considered by some to be one of the city's rougher areas, it was where my father worked harder than anyone I'd ever met. So when race came up, either subtly or overtly, his image was the one I carried of my neighborhood and my blackness.

"Zach, why are black people so athletic?" they asked me. Other times, they insisted that I impersonate Obama and complained that my nose wasn't big enough for me to really be black. Did I like this? Of course not. But did it faze me?

Please. I had been learning how to adapt to difficult circumstances since before I could remember. Sometimes I debated race with these students; other times it seemed futile. No matter the case, I always tried my best to show through my

own actions that the things they believed about black people weren't true. But I knew that I could make a bigger impact by going to the source and learning every facet of their arguments so that I could ultimately take them on. I filed away Charles Murray's name, but not in order to avoid it. Rather, so that I could seek out his books and educate myself about exactly what he was saying, and why.

Only three years later, I had an opportunity to do just that. As the president of Uncomfortable Learning at Williams College, I had the job of bringing speakers who would offer different viewpoints from those we were typically exposed to on our liberal campus. First, I invited Suzanne Venker, a self-described anti-feminist who claims that feminist women are waging a war on men. Within minutes of announcing the event, my in-box, phone, and Facebook page were flooded with negative comments, insults, and even implicit threats. "Zach Wood, you're a filthy misogynist," my peers said. "You're a sellout, a traitor to your race. You're worse than Ben Carson."

I was shocked. Many of these comments were coming from students who knew me. They'd engaged with me on campus, and some were even my friends. Yet, based on this one event, they were characterizing me in a way that went against everything I stood for. But I was determined not to back down. When we eventually had to cancel Venker's appearance due to concerns about her personal safety, I followed up with an invitation to John Derbyshire, a divisive pop-math author and opinion journalist who'd publicly defended white supremacy, advised readers to stay away from groups of black people, and, like Murray, claimed that blacks had lower IQs than whites.

This time, the backlash was even worse. Now the topic was race. A note was slipped under my door that read, "Your blood will be in the leaves," next to a picture of a tree. A comment on Facebook read, "We need the oil and switch to deal with him in this midnight hour." A few student activists came up to me in the cafeteria and insulted me to my face. Others whispered about me behind my back.

I tried explaining to my fellow students that I wasn't doing this because I was secretly a conservative, a self-hating black man, or an anti-feminist, men's

rights activist. Rather, I was sick of living in an echo chamber. At Williams, most of my professors taught their perspective on any given issue as if it were fact instead of delving into opposing views to create well-rounded lessons. Around campus, progressive ideas were lauded while conservative ones were shut down for being insensitive. 'The few conservatives at Williams were largely scared into silence, knowing that if they went against the status quo they would be labeled as biased and wrong.

I wasn't satisfied hearing only one side of things, even if it was the side I agreed with. I wanted to use the education I received at Williams to create positive change in the world one day. How would I do that if I shut out the voices I disagreed with instead of engaging with them? My curiosity led me to examine issues from all sides, trying to find understanding and

hopefully some common ground. It wasn't about letting a racist convince me that I was wrong or that I was less intelligent than he was. Instead, I sought to stand firmer in my convictions and become better able to defend them by thoroughly understanding the logic of my opponents.

My explanations made little difference. When the president of Williams College, Adam Falk, canceled Derbyshire's talk, I was disappointed but not deterred. Charles Murray had reached out to me, saying that he'd love to come speak at Williams, and I decided to invite him. While some students continued to protest, this time the event went on as planned.

In his book, Murray attributed IQ disparities and achievement gaps to the genetic inferiority of blacks and the behavioral impediments holding back black communities. One of Murray's contentions was that there are cultural problems in the black community that no amount of welfare or government spending can possibly correct. As he was explaining some of his ideas over dinner, I realized that the IQ discussion was just a distraction. If I focused on the actual issues, maybe we could find some common ground. So I started by acknowledging his side of the argument head-on.

"I am not discounting cultural problems," I told him, going on to describe them better than he could: the emulation of rappers, the glorification of hip-hop culture and violence, the broken families, and so on.

"But," I continued, "we need to address the structural issues first. You do acknowledge that they exist, right? So how can we increase social mobility and economic opportunity for Americans living below the poverty line?"

Murray engaged thoughtfully but continued on undeterred.

After the event, a friend approached me to say that my argument had resonated with him and had even made him think differently about racial disparities in America. For me, Murray's visit to Williams was a successful example of Uncomfortable Learning. Neither of us changed our opinions or switched sides, but that wasn't the point. Instead, by listening to and challenging Murray, my classmates and I were forced to think more deeply about our own beliefs and even question them.

In my mind, this type of debate is valuable and would not have been possible if we did not give Murray an opportunity to share his perspective, but my critics felt that by giving him that opportunity, I was bolstering his misguided and often hurtful views.

Hurtful. "That's the word that campus activists and others who opposed Murray's invitation to speak at Williams used to describe why they were against it. As I sat down with some of them to hear them out, just as I'd heard out Murray, they explained why it was so painful and triggering for them. They discussed incidents of sexual assault, police brutality, and growing up in poverty, and they explained that, to them, Williams wasn't just a learning institution—it was their home.

As the topic of free speech on college campuses has continued to cause controversy, protests, and even bursts of violence across the country, the criticism most often levied against campus activists is that they're too sensitive. On campus, their feelings are coddled. Class materials that may be upsetting are given a trigger warning. Speech codes restrict many college students from talking about certain subjects. And controversial speakers such as Venker and Derbyshire are kept away. The result is millions of college students who have little tolerance for healthy debate and view someone voicing his or her opposing view as an attack on their very personhood.

Make no mistake—these subjects are extremely difficult for me to grapple with, too. But I don't want to give someone like Derbyshire the satisfaction of writing me off as too sensitive when I can rise to the occasion and challenge him instead.

And, yes, of course there's more to it than that. This is something I've been asked about many times. In several of the interviews I've done following the Uncomfortable Learning controversy, I've been asked why my peers are so sensitive and what makes me different.

"Your classmates are hurt by someone like Murray merely being on campus, and you're willing to face implicit threats in order to bring him there," one reporter remarked during a phone interview. "How have you grown such a thick skin? Are you just wired differently than the students who criticize you?"

I repeated the question, trying to think of how best to answer. This was something I'd been asked many times, but not in such a pointed way. The truth is, I know full well where my thick skin comes from. It's something I've processed and moved on from, but once in a while when I'm asked a question like this, I think back to her words: "You worthless punk-ass nigga." I can remember the piercing look in her eyes, the leather belt in her hand, the anger and pain that made her face quiver as she told me to take off my clothes and turn around.

"Well," I said slowly, taking a deep breath. "I wasn't exactly coddled."

[Stranger America: A Narrative Ethics of Exclusion](#)
by Josh Toth [Cultural Frames, Framing Culture, University of Virginia Press, 9780813941103]

Contradictory ideals of egalitarianism and self-reliance haunt America's democratic state. We need look no further than Donald Trump's 2016 presidential campaign and victory for proof that early twentieth-century anxieties about individualism, race, and the foreign or intrusive "other" persist today. In Stranger America, Josh Toth tracks and delineates these anxieties in America's aesthetic production, finally locating a potential narrative strategy for circumnavigating them.

Toth's central focus is, simply, strangeness—or those characters who adamantly resist being fixed in any

given category of identity. As with the theorists employed (Nancy, Ziek, Derrida, Freud, Hegel), the subjects and literature considered are as encompassing as possible: from the work of Herman Melville, William Faulkner, James Weldon Johnson, and Nella Larsen to that of Philip K. Dick, Woody Allen, Larry David, and Bob Dylan; from the rise of nativism in the early twentieth century to object-oriented ontology and the twenty-first-century zombie craze; from ragtime and the introduction of sound in American cinema to the exhaustion of postmodern metafiction.

Toth argues that American literature, music, film, and television can show us the path toward a new ethic, one in which we organize identity around the stranger rather than resorting to tactics of pure exclusion or inclusion. Ultimately, he provides a new narrative approach to otherness that seeks to realize a truly democratic form of community.

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Both Members of This Club

I'm not a numerologist. I don't know why the number 3 is more metaphysically powerful than the number 2, but it is. -BOB DYLAN, CHRONICLES

The American nightmare is on full display in George Bellows's famous painting of an interracial boxing match, Both Members of This Club. Completed in 1909, the ostensibly "realist" painting depicts violence and voyeurism at a private boxing club while allegorizing its specific subject matter via the deployment of certain protomodernist techniques. As Joyce Carol Oates puts it, the painting is "realistic in conception ... [but] dreamlike in execution; poetic rather than naturalistic". As do all Bellows's boxing paintings, Both Members largely forgoes mimetic accuracy and "depicts ... men as wholly physical beings in extremis, killer brothers, or twins, trapped in the madness of mutual destruction". On a certain level, in fact, and as Oates suggests, the painting implies or provokes bewildering uncertainty: "Is this murder, or suicide? Is there any distinction?". Such uncertainty is surely implied by the paradoxical subject—two men exposing and mixing viscera in an effort to assert dominance as abject independence; but it is also and just as surely an effect of Bellows's willingness to traverse and exploit an ambiguous line between "Ashcan" realism and expressionistic modernism.' The painting's troubling depiction of an impending and irreparable confusion of self and other is conveyed via an equally troubling collapse of structure and line, a blurring of form and color, black and white. The painting asserts its subject by risking its loss to pure form. Were this painting any "truer" (in a distinctly modernist sense) it would have to forgo the distinctive coherence of the two fighters altogether; the form would become the subject. In threatening such dissolution, the painting draws our attention to the fantasmatic nature of identity. More specifically (if more simply), the painting's formal composition and protomodernist style draws our attention to the fantasy that buttresses American conceptions of nationhood and democracy: the fantasy of pure inclusion and, therefore, pure exclusion.

Racial conflict is presented less as subject than as symptom. And yet we must attend to the painting's very specific historical context if we are to track the pathology it denotes. Bellows was working at a

time when the veiled problems of a "Gilded Age" were beginning to effect very specific and very conflicting notions of individuality, national identity, and racial purity. Such conflicts accentuated the growing tension between the normative forces of democracy, technology, and social welfare and an equally American effort to retain and valorize the possibility of independence and self-reliance.' The fear of disability, social entropy, and the collapse of overt racial demarcations provoked a renewed investment in individualism; but the effort to sustain the individual in the face of egalitarian indifference could do little more than expose the abjectly independent self as paradoxically dependent upon a sustained relation to otherness. To remain identifiably distinct the self must maintain its relation to a whole, relation made possible by communal and regulatory norms. Consequently, the adamantly self-reliant individual invariably faces the terrifying truth that he or she cannot, in Jean-Luc Nancy's terms (and as we'll see in the following chapters), "be alone being alone" ("Inoperative"). Bellows lays bare this terror of relational dependence and corruption by evoking the very specific threat of Jack Johnson and the erosion of racial difference.

In 1908, Johnson became the first black heavyweight boxer to win the world title. Johnson's various successes against white men stoked racial tensions across the nation, tensions that ran parallel to America's increasingly vehement nativism. Johnson's dominance in the ring became particularly terrifying when, in 1910, the most hopeful in a string of "great white hopes" (the retired Jim Jeffries) was soundly defeated. Such victories, which Bellows' painting both reflects upon and anticipates, openly mocked American appeals to white supremacy and induced a type of racial hysteria. So great was the fear that, in the months leading up to the bout between Johnson and Jeffries, the New York Times found itself suggesting that the boxing ring was no place for a white man to assert his true superiority: "While the sort of efficiency which avails in pugilism is in itself a valuable asset for the members of a dominant race, it is perilous to risk even nominally the right of that race to exercise dominance in a conflict which brings so few of its higher superiorities into play". By providing a space for black men to "face off" against white men, boxing openly flouted the

tenuous divide between American whiteness and un-American blackness—and, in turn, risked exposing their troubling interdependence. The danger and terror was therefore double: an interracial bout implied the illusory nature of such distinctions even as it exposed the impossibility of having the one without the other. This is the horrifying paradox that lurks in the shadows of Bellow's painting and that finally undermines the very possibility 0f the immanently American individual. The painting invokes the troubling racial politics of early twentieth-century boxing so as to expose more generally the terrifying and corruptive necessity of otherness (racial or otherwise), the inescapable necessity of supplementary relations. To assert the self by destroying what is other is, finally, to experience the confusing absence of all such relations. Murder becomes suicide.

It is of some significance, then, that Bellows is careful to maintain a distinction between what is depicted and how it is depicted. The painting is of two boxers (one black and one white), a ring, a jeering crowd. As they do in the earlier Stag at Sharkey's (1909), which depicts two white boxers, the opposed bodies in Both Members form (along with a third body) a triangular object. However: while the third body in Stag is obviously the referee to the right of the opponents, the third body in Both Members is easy to miss, a figure to the left who is crouched and obscured by shadows. If we focus on this indefinite figure, the triangular form—which Marianne Doezema sees beginning on the right (where the black fighter's foot pushes against the ground) and then climaxing in the confusion of fists at the top of the frame—concludes by running (equilaterally) down his back. If we fail to see him, the triangular form ends abruptly at the white fighter's shoulder blade and warps inward under the force of the black man's aggression and terrifying independence. While Doezema mentions the former possibility, she maintains a focus on "the ultimate open-endedness of the left side of the triangle". She thus overlooks the fact that the painting encourages two opposed views: the collapse and the affirmation of its governing shape. These two possibilities signal the painting's profound undecidability. What will be the outcome? Who will win? These are the obvious questions. More implicitly, though (and given

Bellows's decision to move away from more traditional forms of realism), the painting leaves us wondering if the structure itself will prevail. Will the lines of (racial, national, individual) demarcation hold? Everything, it would seem, depends upon the presence or the absence of what Hegel calls a mediating "third term"—or, for Bellows, a referee.

To be clear: the painting does not present its central figures as three equal sides of a triangle—though, of course, two fighters and a referee could form such an image (as they do in Bellows's 1907 pastel, The Knock Out).4 Instead, the painting's triangular composition suggests, more radically, that a third figure is necessary if two opposing forces are to remain in balanced opposition, or communication. The possibility of sustaining two subjects in opposition or empathy necessarily entails proximity as relation. And yet, in Both Members, this third figure is less present than implied. He could be a spectator (as Doezema assumes), a coach, or even the referee. But the latter is unlikely. He appears to be rising out of the crowd, and his hand is holding a rope on the back side of the ring. Or maybe it isn't? It's hard to say with certainty— especially since "the ropes in the foreground inexplicably disappear to the right and the left of the boxers," oddly merging with the ropes in the back. To a certain extent, the curious indefiniteness of the figure simply highlights the manner in which the difference between spectacle and spectator is beginning to dissolve. Or rather, if the referee is absent, the figure in his place merely prompts us to see the afterimage of a once stable structure.

Both Members therefore evokes, without actually or simply repeating, Bellows's typical arrangement of boxing's most essential components (i.e., two fighters and a referee). At the same time, it stresses the metonymical function of that arrangement. The triangular shape becomes a mise en abyme, echoing or reduplicating the depiction of a crowd, a structuring or mediating ring, and the spectacle of a fight. Taken further outward, the three-part structure mirrors or implicates the viewer, the painting itself, and the subject depicted. The horror of Both Members is, in this sense, tied to the implication that mediation and relation are no longer in play, that the victory of the self or subject has come at the cost of all distinction. In the

absence of a referee, the oppositional structure is bound to collapse, and the seemingly inevitable merging of opposed figures will reach its terrifying completion (inside and outside the ring). On a literal level, of course, the referee in boxing ensures a "fair" fight. He insists upon the established order of things, standing in the way of any untoward excess. He is, by metaphoric extension, the physical embodiment of a certain masculine code of ethics. (Boxing is "a gentleman's sport") But we should not forget, either, that in the era of Jack Johnson, the referee was invariably white, the emissary of a white establishment (inclusive of big business, discursive norms, etc.). His ostensible absence in Both Members thus points to the potential collapse of the ring and the loss of the white fighter— especially if we take "loss" to mean disappearance, or the utter confusion of self and other. The paradox is that the victory of whiteness requires the supplementary support of an "establishment" that brings it into relation with its "negative:' To claim its purity and independence the self must enter a ring of corruption and dependence, a formal setting of shared codes and distressing equivalences. The deck might be stacked in the white fighter's favor, but the promise of his true victory is sustained by its impossibility—that is, a mediating point of relating, the implication of sameness, the very thing he surely wishes he could be without.'

Without an officiating relation to sustain difference (while paradoxically frustrating a desire for immanence), white and black, self and others, will become indistinguishable. This threat is signaled in every aspect of the painting: the forceful brushstrokes and thick paint, the grotesque and almost indistinguishable faces, the disappearing ropes. As Oates suggests, there is something Goyaesque about the proceedings (297). We might even hazard the claim that Both Members is an American adaptation of any one of Goya's Los disparates. Consider, especially, Disparate matrimonial. In this print, two bodies (one male, the other female) have inexplicably converged, through their bodies continue to assert some semblance of an oppositional or triangular relationship. The male figure—whose face is no less animalistic and contorted than the woman's—points outward (accusingly?) at a ring of spectators. Like Bellows's spectators, these spectators have

"ringside" seats; yet their own contorted and distorted faces, along with the fact that their ostensible "ring" is clearly beginning to dissolve, implicates them in the very confusion or madness they have come to witness. The utter absence of an officiating or mediating figure—referee or priest—is undeniable.

In Goya, the subject is presumably a wedding; in Bellows, an interracial bout. We might say this is only a difference in degree—but, really, it is only a difference in kind. The male victory of acquiring and subjecting a female partner is surely and only an effort to actualize the same fantasy that animates an individual's desire to assert and maintain dominance over a racialized other. And let's not overlook the suggestion (overt in Goya but certainly implied in Bellows) that the fantasy in question is also and always the fantasy of sustaining a tenuous line between human and animal. The point in either work is that any such struggle is doomed to fail, that the struggle itself threatens to erode the very ground or mediating point that makes it possible. What we see in Both Members is the manner in which this terrifying possibility of dissolution—as in the confusion of self and other, viewer and viewed, form and content— is paradoxically effected by a violent effort to assert the self absolutely. Boxing is, after all, an effort to master the other completely, an overt and ritualized staging of Hegel's "life-and-death struggle". Fighters must stake their lives in an effort to assert independence from that which is wholly external, from all that is not purely the self. The problem, as Hegel assures us (and as Bellows intimates), is that "this trial by death ... does away with the truth which was supposed to issue from it, and so, too, with the certainty of self generally. For just as life is the natural setting of consciousness, independence with0ut absolute negativity, so death is the natural negation of consciousness, negation without independence, which thus remains without the required significance of recognition". While the defeated dead achieves a type of victory by forgoing any stakes in the game, the victorious living succeeds only by "put[ting] an end to their consciousness in its alien setting of natural existence[;] ... they put an end to themselves, and are done away with as extremes wanting to be for themselves, or to have an existence of their own. But with this there vanishes from their interplay the

essential moment of splitting into extremes with opposite characteristics; and the middle term collapses into a lifeless unity".

The struggle for pure independence must necessarily entail a struggle against that which defines and sustains selfhood. Any effort to escape by defeating the other will erode the space of relation that makes the articulation of difference possible. That an actual boxing match never results in the horror of true ontological nullity is simply testament to the fact that boxing is a spectacle, a type of tragic (if all too real) play, a performative instance of an all-pervasive repetition compulsion. The obvious response to (yet mere obverse of) such compulsion is abject withdrawal, a distinctly Emersonian form of friendship, or communion—a complete refusal to step into the ring. Significantly, this ideal of withdrawn friendship serves as foundation for any number of more recent efforts to theorize a finally ethical and truly democratic community. From Blanchot to Derrida to Agamben to 2izek (and others) we have seen in the past several decades a clear tendency in theoretical discourse to valorize a certain withholding of the self, the willingness and ability to sustain one's reservoir of unique or monstrous potential—and, in so doing, sustain the other's. This tendency in contemporary theoretical discourse, which almost invariably runs alongside a critique of America's fraught democratic ideals, surely points to the fact that early twentieth-century anxieties about individualism, egalitarianism, and race persist today. For proof we need look no further than "the great white hope" of Donald Trump's presidential campaign and victory in 2016. Is not the appeal of an "antiestablishment" politician—a politician who "says it like it is," who takes what he wants, who promises freedom and deregulation (economically and politically), who fights while refusing to be "reffed"—tied directly to a desire for immanence, the purity of (a national) identity? That such a politician would manage his affairs via a Twitter account is hardly surprising; the alluring promise of Twitter is the promise of impossible transparency, a finally and truly immediate exchange.

But if Emerson (in the nineteenth century) naïvely assumes the possibility of finally and ethically "put[ting] [one]self out of the reach of false relations" ("Friendship" 353)—of escaping "rash

and foolish alliances which no God attends" (353), of sustaining in its purity the godlike mystery of the unique self—contemporary theorists have tended to be (at their most nuanced) more radical. Contemporary efforts to theorize the possibility of sustaining an ideal of communal belonging while forgoing communally mandated acts of exclusion and dominance go beyond Emersonian naïveté whenever they open us to the fact that we must endure "a certain confusion", that we cannot be alone without sharing our aloneness, that the preservation of selfhood is never "a question of withdrawing incognito or in secret" (25). Overly simplistic appeals to ethical withdrawal (even post-Emersonian ones) refuse the necessity of enduring this paradox. For this reason, they tend to be no less futile than the "life-and-death struggle" Bellows appears to critique and that the nationalist and populist movements of today seem to embrace. Nor do they tend to be any less tied to melancholic anxieties about faltering ontological distinctions and hierarchies (between races, genders, or species). Any effort to assert the self as wholly anterior to corruptive and supplementary relations—to mediating and equalizing norms, to relational points of negation, loss and confusion—must entail the self-defeating sacrifice of otherness.

Bellows's painting is an exemplary depiction of this dilemma insofar as it exposes an indissoluble connection between ontological and representational uncertainty. The possibility that the self is bound to dissolve in the moment of its most profound victory (or articulation) is echoed in the possibility that the painting's subject will only appear in truth the moment it is no longer opposed to or corrupted by the supplement of its form, the moment when the indecipherability of an ambiguous form finally makes possible our apprehension of the Real. In either case, the subject is only gained in the moment of its loss—when a middle term, an interfering mediator or referee, a ring or a frame, vanishes altogether. But the latent realism of Bellows's painting suggests an alternative. It points to the absolute necessity of representational form, the necessity of an understandable and always corruptive point of communal sharing, while simultaneously signaling (and therefore preserving some sense of) what is lost. While depicting one of the most overt and futile efforts to assert independence (or impossible

racial purity as ontological immanence), Bellows's painting shares while preserving an infinitely plastic subject. It opens us to the possibility of (what I come to call in the following chapters) an autoplastic act. Such an act would entail a profoundly ethical commitment to Hegelian sublation: the possibility of giving a subject by signaling the impossibility of containing its divine truth. To perform an autoplastic act we must "tarry with the negative" (Hegel, Phenomenology 19). We must endure an ethical imperative to respect and protect that which we can neither defeat nor bring into equivalence with any given form of understanding—even as we question and challenge the efficacy and ethical limitations 0f such forms (such as, for instance, white patriarchal discourse). Faced with this imperative, our only recourse is to engage in acts of representational concealment that paradoxically smuggle in, by outlining the constituent absence of, a core opacity. Only in this way might we sustain the self while enduring the corruptive necessity of relation, of what sustains an unknowable otherness that is nevertheless the constituent ground of selfhood. This is precisely what the following chapters attempt to demonstrate.

Or rather, [Stranger America](#) is an effort to track and delineate in America's narrative media the anxieties Bellows's painting provokes. The goal is to intervene in an ongoing theoretical debate about community formation and the ideal of American democracy so as to identify a specific and efficacious modality of democratic self-sharing—one that might allow us to endure and sustain "a certain confusion" while perpetually forestalling the ontological dissolution that threatens Bellows's fighters, their audience, and the representative act that relates them. To that end, the book is divided into three distinct but interrelated parts, each of which contains three chapters. Part I focuses on America's racial anxieties, especially as they are reflected in the narrative forms of the early twentieth century. But race is not the subject per se. In America, as Bellows's works suggests, the phenomena of racial conflict is tightly knotted to the impossibility of fully harmonizing an ideal of democratic equality with a will toward abject self-reliance and individuality. Narrative efforts to negotiate this aporetic knotting tend to be particularly attuned to transhistorical and transnational theories of selfhood and otherness.

When placed in direct dialogue with these theories, they have the potential to attune us to the possibility of a narrative ethics—the possibility of sustaining otherness in the face of its necessary and corruption expressions. To approach this possibility, part I follows the thread of racial anxiety, specifically the connection between racial ambiguity and literary acts of obfuscation (both modern and postmodern). But this particular thread necessarily gives way to a larger problem, or knot. The issue of race and racial conflict in part I functions, in other words, as an exemplary access point to the more general issue of communal belonging and identificatory processes: the risk of losing oneself to communal norms and the irresponsibility of preserving one's truth via alienating modes of withdrawal. The necessity of negotiating these extremes—of communal entropy (on the one hand) and feckless egotism (on the other)—is then reapproached in part II. Here the focus is on the politics of eating, on the problem of consuming otherness and of being consumed. What motivates the (physical, economic, ideological) consumption of others? How do we justify it? How might we begin to consume ethically while giving ourselves to be taken in, shared, interiorized? While the specific issue of race is moved to the background, part II nevertheless moves (via this new angle of approach) toward the same conclusion as part I: the necessity and possibility of a narrative form that can "give" a subject (to be consumed) while respecting and preserving the profound unknowability of that which is abjectly other. The specific qualities of this form are finally tracked and defined in part III.

In all three parts, the artifacts considered are strategically diverse. They represent (as much as possible) a broad cross section of narrative genres and historical periods. This diversity highlights the ubiquity of the problem discussed, but it also functions to show how different narrative modalities at different times have been employed (successfully or not) to make sense of and manage that problem. What holds these artifacts together is the manner in which they expose the significance and radical potential of strangeness. On the one hand, they tend to concern characters (like Herman Melville's Bartleby or Nella Larsen's Clare) who adamantly resist being fixed in any given category or performance of identity; on the other, they tend to employ narrative techniques that disrupt the inertia of normative sense making. Often the disruptive nature of the narrative form goes hand in hand with the strangeness of the character(s) depicted. In such cases, the intrusive nature of the text takes on a dual function: (i) it evokes while challenging the very promise that ostensibly defines, even as it necessarily opposes the possibility of sustaining, American identity—that is, the end of exclusionary identity politics; (2) it accentuates the ethical responsibility or promise of narrative representation. Like Bellows's painting, it opens us to the possibility that certain narrative acts can "give" a subject while respecting the profound unknowability of that which is abjectly other. By tracking the varied expressions of such a possibility, Stranger America attempts to apprehend a new narrative approach to American democracy ("autoplasticity") and to offer it as a way of resisting America's exclusionary and melancholic tendencies—as a way (perhaps) to realize a truly democratic form of community, or as a way (perhaps) to realize "a relation without relation or without relation other than the incommensurable". <>

Lost in Math: How Beauty Leads Physics Astray by Sabine Hossenfelder [Basic Books, 9780465094257]

A contrarian argues that modern physicists' obsession with beauty has given us wonderful math but bad science
Whether pondering black holes or predicting discoveries at CERN, physicists believe the best theories are beautiful, natural, and elegant, and this standard separates popular theories from disposable ones. This is why, Sabine Hossenfelder argues, we have not seen a major breakthrough in the foundations of physics for more than four decades. The belief in beauty has become so dogmatic that it now conflicts with scientific objectivity: observation has been unable to confirm mindboggling theories, like supersymmetry or grand unification, invented by physicists based on aesthetic criteria. Worse, these "too good to not be true" theories are actually untestable and they have left the field in a cul-de-sac. To escape, physicists must rethink their methods. Only by embracing reality as it is can science discover the truth.

CONTENTS

Excerpt: They were so sure, they bet billions on it. For decades physicists told us they knew where the next discoveries were waiting. They built accelerators, shot satellites into space, and planted detectors in underground mines. The world prepared to ramp up the physics envy. But where physicists expected a breakthrough, the ground wouldn't give. The experiments didn't reveal anything new.

What failed physicists wasn't their math; it was their choice of math. They believed that Mother Nature was elegant, simple, and kind about providing clues. They thought they could hear her whisper when they were talking to themselves. Now Nature spoke, and she said nothing, loud and clear.

Theoretical physics is the stereotypical math-heavy, hard-to-understand discipline. But for a book about math, this book contains very little math. Strip away equations and technical terms and physics becomes a quest for meaning—a quest that has taken an unexpected turn. Whatever laws of nature govern our universe, they're not what physicists thought they were. They're not what I thought they were.

Lost in Math is the story of how aesthetic judgment drives contemporary research. It is my own story, a reflection on the use of what I was taught. But it is also the story of many other physicists who struggle with the same tension: we believe the laws of nature are beautiful, but is not believing something a scientist must not do? This is a problem that affects some areas of theoretical physics more than any other field of science; hence the focus of this book.

Experimentalists push their own agenda, of course. They fancy the development of new technologies and don't leave decisions about future experiments up to theorists. But still, it's up to us theorists to point at new regions of parameter space worth exploring. We have a responsibility to assess our theories as objectively as possible in order to help identify the most promising new experiments.

Regardless of the field, as long as theories are developed by humans, the default assumption must be that theory assessment is both cognitively and socially biased unless steps are taken to address

these issues. But no such steps are currently being taken. Hence, progress is almost certainly slower than it could be.

How could we have ended up in a situation like that? Because it's easy for us scientists to blame governing bodies or funding agencies, and there is no shortage of complaints: Nature and Times Higher Education seem to publish a rant about nonsensical attempts to measure scientific success every other week. When I share these articles on Facebook, they are guaranteed to get the thumbs-up. And yet nothing ever changes.

Complaining about others hasn't helped because it's a problem we've caused ourselves—and one that we must solve ourselves. We have failed to protect our ability to make unbiased judgments. We let ourselves be pushed into a corner, and now we are routinely forced to lie if we want to continue our work. That we accept this situation is a failure of the scientific community, and it's our responsibility to get this right.

It's not very popular to criticize your own tribe. But this tent stinks.

***

Criticism is cheap, say the critics. I spent nine chapters making a case that theoretical physicists are stuck on beauty ideals from the past, but now you may be wondering what else I think they should do. Don't I have an alternative to offer?

I don't have a miracle cure for the problems theoretical physicists are trying to solve, and if I told you I did, you'd be well-advised to laugh me off. These are tough problems, and complaining about aesthetic biases won't just make them go away. In the next section I offer some thoughts on where to start. But of course I have my personal preferences like everybody else. And of course I too am biased.

My intention here is more general and goes beyond my own discipline. Cognitive and social biases are a threat to the scientific method. They stand in the way of progress. While we will never be able to get rid of human biases entirely, it's not a situation we just have to accept. At least we can learn to recognize problems and avoid reinforcing them by bad community practices. In Appendix C I have collected some practical suggestions.

Lost in Math

Math keeps us honest, I told you. It prevents us from lying to ourselves and to each other. You can be wrong with math, but you can't lie. And it's true—you can't lie with math. But it greatly aids obfuscation. Do you recall the temple of science, in which the foundations of physics are the bottommost level, and we try to break through to deeper understanding? As I've come to the end of my travels, I worry that the cracks we're seeing in the floor aren't really cracks at all but merely intricate patterns. We're digging in the wrong places.

As you have seen, most of the problems we presently study in the foundations of physics are numerological coincidences. The finetuning of the Higgs mass, the strong CP problem, the smallness of the cosmological constant—these are not inconsistencies; they are aesthetic misgivings.

But in the history of our field, mathematical deduction led the way only if we indeed had a problem of inconsistency. The inconsistency of Special relativity with Newtonian gravity gave rise to general relativity.

The inconsistency between special relativity and quantum mechanics led to quantum field theory. The breakdown of the probabilistic interpretation of the standard model allowed us to conclude that the LHC must find new physics, which appeared in form of the Higgs boson. These were questions that could be tackled with math. But most of the problems we deal with now are not of this kind. The one exception is the quantization of gravity.

The first lesson I draw, therefore, is this: If you want to solve a problem with math, first make sure it really is a problem.

Theoretical physicists pride themselves on their experience and intuition. And I am all in favor of using intuition by making assumptions that may only later become justified (or not). But we have to keep track of these assumptions, or else we risk them becoming accepted even though they are unjustified. Intuition-based assumptions are often pre-scientific and fall into the realm of philosophy. If so, we need contact with philosophers in order to

understand how our intuitions can be made more scientific.

Because of this my second lesson is: State your assumptions.

Naturalness is such an assumption. So is simplicity; reductionism does not imply a steady increase of simplicity toward smaller scales. Instead, we might have to go through a phase (in the sense of scales) where our theories become more complicated again. The reliance on simplicity, dressed up as unification or the decrease of the number of axioms, might mislead us.

But even with good problems and clearly stated assumptions, there still can be many mathematically possible solutions. In the end the only way to find out which theory is correct is to check whether it describes nature; non-empirical theory assessment will not do. In the search for a theory of quantum gravity and for a better formalism of quantum physics, the only way forward is to derive and test different predictions.

And so, my third and final lesson is this: Observational guidance is necessary.

Physics isn't math. It's choosing the right math.

The Search Goes On

June 22, 2016: The first rumors appear that the diphoton bump is fading away with the new LHC data.

July 21, 2016: The LUX dark matter experiment concludes its search and reports no signal of WIMPS.

July 29, 2016: The rumor that the diphoton anomaly is gone heats up.

August 4, 2016: The new LHC data are published. They confirm that the diphoton bump is gone for good. In the eight months since its "discovery," more than five hundred papers were written about a statistical fluctuation. Many of them were published in the field's top journals. The most popular ones have already been cited more than three hundred times. If we learn anything from this, it's that current practice allows theoretical physicists to quickly invent hundreds of explanations for whatever data happen to be thrown at them.

In the weeks that follow, Frank Wilczek loses his bet with Garrett Lisi that supersymmetry would be found at the LHC. A similar bet made at a conference in 2000 is settled in favor of the no-susy-party.

Meanwhile, I win a bet with myself by banking on my colleagues' continued failure while I finish writing. The odds were in my favor—they spent thirty years trying the same thing over and over again, expecting different results.

In October, the CDEX-1 collaboration reports they haven't seen any axions.

How long is too long to wait for a theory to be backed up by evidence? I don't know. I don't think this question even makes sense. Maybe the particles we are looking for are just around the corner and it's really only a matter of technological sophistication to find them.

But whether or not we will find something, it is already clear that the old rules for theory development have run their course. Five hundred theories to explain a signal that wasn't and 193 models for the early universe are more than enough evidence that current quality standards are no longer useful to assess our theories. To select promising future experiments, we need new rules.

In October 2016 the KATRIN experiment in Karlsruhe, Germany, begins operations. Its task is to measure the heretofore unknown absolute masses of neutrinos. In 2018, the Square Kilometer Array, a radio telescope under construction in Australia and South Africa, will begin searching for signals from the earliest galaxies. In the coming years, the g-2 experiment at Fermilab in Chicago and the J-PARC experiment in Tokyo will measure the magnetic moment of the muon to unprecedented precision, probing a long-standing tension between experiment and theory. The European Space Agency has tested grounds for the space-borne laser interferometer eLISA that could measure gravitational waves in unexplored frequency ranges, delivering new details of what happens during inflation. Much of the LHC data is yet to be analyzed, and we still might find signs of physics beyond the standard model.

We know that the laws of nature we presently have are incomplete. To complete them, we have to

understand the quantum behavior of space and time, overhauling either gravity or quantum physics, or maybe both. And the answer will without doubt raise new questions.

Physics, it might seem, was the success story of the last century, but now is the century of neuroscience or bioengineering or artificial intelligence (depending on whom you ask). I think this is wrong. I got a new research grant. There's much work to do. The next breakthrough in physics will occur in this century.

It will be beautiful. <>

Decoding Maori Cosmology: The Ancient Origins of New Zealand's Indigenous Culture by Laird Scranton [Inner Traditions, 9781620557051]

Decoding Maori Cosmology by Laird Scranton is an exploration of New Zealand's Maori cosmology and how it relates to classic ancient symbolic traditions around the world. It shows how Maori myths, symbols, cosmological concepts, and words reflect symbolic elements found at Göbekli Tepe in Turkey. It demonstrates parallels between the Maori cosmological tradition and those of ancient Egypt, China, India, Scotland, and the Dogon of Mali in Africa. And it explores the pygmy tradition associated with Maori cosmology, which shares elements of the Little People mythology of Ireland, including matching mound structures and common folk traditions

Scranton is the author of a series of books on ancient cosmology and language, including The Science of the Dogon, Point of Origin, and China's Cosmological Prehistory.

It is generally accepted that the Maori people arrived in New Zealand quite recently, sometime after 1200 AD. However, new evidence suggests that their culture is most likely centuries older, with roots that can be traced back to the archaic Göbekli Tepe site in Turkey, built around 10,000 BC.
Extending his global cosmology comparisons to New Zealand, Scranton in Decoding Maori Cosmology shows how the same cosmological concepts and linguistic roots that began at Göbekli Tepe are also evident in Maori culture and language. These are the same elements that underlie Dogon, ancient Egyptian, and ancient Chinese cosmologies as well as the Sakti Cult of India (a precursor to Vedic, Buddhist, and Hindu traditions) and the Neolithic culture of Orkney Island. Scranton shows how the cosmology in New Zealand was sheltered from outside influences and likely reflects ancient sources better than other Polynesian cultures. In addition to shared creation concepts, he details a multitude of strikingly similar word pronunciations and meanings, shared by Maori language and the Dogon and Egyptian languages, as well as likely connections to various Biblical terms and traditions. He discusses the Maori use of standing stones to denote spiritual spaces and sanctuaries and how their esoteric mystery schools are housed in structures architecturally similar to those commonly found in Ireland. He discusses the symbolism of the Seven Mythic Canoes of the Maori and uncovers symbolic aspects of the elephant-headed Hindu god Ganesha in Maori cosmology.
Decoding Maori Cosmology also explores the outwardly similar pygmy traditions of Ireland and New Zealand, characterized by matching fairy mound constructions and mythic references in both regions. Scranton reveals how the trail of a group of Little People who vanished from Orkney Island in ancient times might be traced first to Scotland, Ireland, and England and then on to New Zealand, accompanied by signature elements of the global cosmology first seen at Göbekli Tepe.

With every book Laird Scranton writes, he take us deeper into understanding our origin and ourselves. Using his solid foundation of Dogon, Egyptian, Chinese, and Scottish cultures he again displays to the reader the complexities inherent in ancient civilizations and provides additional insights into our obscured past. Laird continues to broaden our understanding of the advanced technical concepts that are fundamental to world myths, concepts so advanced that we are only rediscovering many of them today. He suggests that there is an archaic connection between these diverse cultures, with the ancient cosmology of the Maori of New Zealand further validating this interconnected web of language, culture, science, and tradition. Decoding Maori Cosmology presents intriguing correlations and compelling arguments that cause you to stop and think. — Rita Louise, Ph.D., coauthor of The E.T. Chronicles
Decoding Maori Cosmology is sure to be

controversial. Its major premise claims that an archaic, matriarchal tradition, or great Mother Goddess culture, gave birth to parallel mythological systems all across the globe after 10,000 BCE. Continuing his series that researches the evidence for cultural diffusion, Laird Scranton uses comparative linguistics as well as corresponding cosmologies, concepts, architectures, and artifacts in order to link the Maori of New Zealand with Göbekli Tepe in Turkey, the Sakti Cult of Tamil India, dynastic and predynastic Egypt, Skara Brae in Northern Scotland, the Dogon tribe of Mali, and the Buddhism of Tibet and elsewhere. In addition, he clearly and skillfully demonstrates how these diverse peoples of long ago fully understood the fundamental principles of quantum physics and string theory. This book is an essential piece of the puzzle showing the true picture of our ancient past. – Gary A. David, author of Journey of the Serpent People

Clearly and skillfully, Laird in Decoding Maori Cosmology continues to broaden readers' understanding of the advanced technical concepts that are fundamental to world myths, concepts we are only rediscovering today.

Oxford Readings in Indian Art edited by B. N. Goswamy wth Vrinda Agrawal [Oxford University Press, 9780199469420]

The world of art is complex and challenging in general; in India it is even more so because the documentation here is truly thin, and whatever exists is so widely scattered that it becomes a task in itself to locate it.

This book address both these issues and brings together in one volume a remarkable body of material consisting not of speculations or theories but of original, primary sources. The voices one "hears" in these excerpts are true and authentic, and if there are any speculations or interpretations, they come from texts or persons directly involved in the making or the understanding of the art of India. Sages speak here, in these pages, of the inter-relationships between the arts, practitioners record measurements of units of time and space, iconographers lay down rules and practices, artists

record their experiences and patrons their delights. Information gathered from colophons is documented; excerpts are taken from memoirs and contemporary histories; the work of early writers on the arts is presented.

Slowly, as one dips into these sources, one can hear the past speak, and the arts of India that have been lost to history come alive.

Excerpt: The putting together of a volume like this is a task. While there is evident need for understanding what the practice and the state of the arts in India in the past was, and for that to go to original sources which can serve as `Readings', doing this is not easy. For the sources are scattered; facts have be gleaned, slowly; statements made directly are few; much has to be read between the lines; and interpretations tend to vary. No histories of art appear to have been written in early India; no biographies of artists exist, nor have artists left any notebooks or memoirs of their own. Much knowledge, having been preserved within families and passed on orally from generation to generation, remains hidden. The hard information we have from the past, as far as the arts are concerned, comes to us thus in the form of whispers that one can sometimes barely hear.

The limitations are clear. And yet, with some effort, a picture, somewhat hazy perhaps, can be reconstructed. For doing this the sources—primary, original, authentic, reasonably dateable, or securely dated—that one has to go back to and draw upon, are of diverse kinds and differ from period to period. To take some examples from ancient India, there is that seminal text, Bharata's Natyashastra, which has extensive passages on how the arts come into being and how they affect, even shape, minds. The Puranas—Agni, Markandeya, Linga, Shiva, among them—even though essentially religious texts in character, yield information, for instance, on iconography, and contain legends in which the arts sometimes figure. There are shilpa-shastras, the equivalent of manuals on art, which go into the making of images or structures—Chitrasutra, Chitralakshana, Samarangana Sutradhara, Manasara, Abhilashaitartha Chintamani, Mayamata, among them—and contain most valuable passages on materials, processes, iconography, iconometry. Related to these in some manner are works that,

strictly speaking, come from the fields of the performing or literary arts—the Sahitya Darpana for instance, or the Abhinaya Darpana but have a clear bearing on the visual arts. Works of literature, among them plays like Bhasa's Pratima Nataka, or Kalidasa's Abhijnana Shakuntalam, and cycles of stories such as the Kathasarita Sagara, provide insights into or descriptions of works of art. All of these have been drawn upon. Some things remain insistently obscured from sight, but there are others that come into full, sharp view.

From the period that followed, unparalleled, in respect of the information it contains, is the Akbar period work—Abu'l Fazl's Ain-i Akbari—which has a whole chapter on the 'Arts of Writing and Painting'. Notices of art appear in chronicles or memoirs, names of individual painters start emerging in this period, and an emperor like Jahangir devotes space in his Tuzuk for the work that his most gifted artists did for him: men like Abu'l Hasan and Mansur. There are no detailed lives of the painters, but some painters and calligraphers begin to turn from shadows into substances as much from notices of them in other peoples' writings, however brief, as from their portraits that have survived. There were early visitors from the Islamic and Buddhist worlds—Fa Hsien, Alberuni, Taranath, among them—who observed and wrote about the arts in India. Writings from the Persian world which directly impacted or bore relevance to what was going on in respect of techniques and processes followed in Mughal India—Bihzad's notes, Sadiq Beg's composition on the 'Laws of Painting'—are useful to draw upon. Truly valuable at the same time are the accounts left by European travellers and officers who came to India in a steady stream, from Jesuit priests and merchants and physicians to ambassadors to the Imperial court—Domingo Paes, Fernao Nuniz, Garcia da Orta, Father Monserrate, Johannes de Laet, William Finch, Thomas Roe, Bernier, Tavernier, Thevenot; somewhat later, Polier, Moorcroft, William Barr, von Orlich, and others—and the observations, some enthusiastic, others somewhat supe¬rior and cynical, they made on the arts in India. Their understanding of the grammar of these arts, and of their aesthetics,

might have been partial, but their observation was sharp.

Writing anything close to the history of art in India, or aspects of it, began no earlier than the early years of the twentieth century, but a fair body of material came together then. There were scholars who translated old but nearly lost texts and added their own comments on them; others took stock of what was on the ground and helped to deepen understanding; still others who brought little known, or virtually unnoticed, developments in the arts into the foreground, Gopinath Rao, Manmohan Ghose, P.K. Acharya, Ananda Coomaraswamy, J. Ph. Vogel, Vincent Smith, E.B. Havell, Abanindranath Tagore, J.C. French, Goetz and Kuhnel, Stella Kramrisch, N.C. Mehta, among them. Excerpts from their writings go legit¬imately into the `Readings' that this volume consists of.

What has been set forth above might convey to the reader an idea of how things have been gone about, but there are other things that have also been researched, other sources drawn upon. In any case, the materials gathered have been organized under six sections: Early Textual References to Art; Icons and Their Measurements; Aesthetic Theory; Artists and Patrons; The Arts in Practice and as Observed; and Early Art Historical Writings.

There is much overlapping in this ordering, and it is admittedly somewhat arbitrary. But we hope that it makes for some convenience of consultation. With the same consideration in mind, each section is introduced, or preceded by, what can be called `head-notes'.

A few things need to be stated about this effort. What is put together here is, in the nature of things, excerpts from sources, illustrative rather than exhaustive. The intention clearly is to lead the researcher/reader to those sources and by no means exhaust them.

Other scholars might easily have gone for other sources or selections, and, naturally therefore, other readings. Some passages here run into several pages and there are others—inscriptions, colophons, and the like—that consist of no more than a few lines. But then that is of the essence of the material. An effort has been made, not always successfully, to provide some dates although perfectly secure dates, at least as far as early

India is concerned, are the exception rather than the rule.

Two things in the end. This volume concerns itself essentially with the visual arts and not the performing or the literary. Spreading out into those other fields would have required another volume. Likewise, the final section on Early Art Historical Writings, stops suddenly, and indefensibly perhaps, with the year 1947. What followed after that, we are aware, is filled with other riches, but those, again, deserve to go into another volume. Meanwhile, it is hoped that what is put together and presented here would provide some insights, as also factually prove of some value to those whom the arts of India continue to interest.

PART I: Early Textual References to Art

Early texts, beginning from as early as the Vedas, contain references to the arts and their practice, but in isolated passages and places. Little is stated directly and one has to strive to eke meanings out of them at times. When, for instance, a statement in the Rig-veda is made like Who will exchange my Indra for ten milch cows?', one wonders if there is a reference here to a sculpted or moulded figure. But when one comes upon the Purush-sukta, one knows for certain that there is rich artistic imagination at work, figures being envisioned and concrete iconographic details that can be sensed. The shilpa shastras—`manuals' or texts dealing directly with the arts and crafts—belong to a later age than the foregoing, but they make for an absorbing reading. There is in them description, discussion, contradiction, repetition, and the like, but the information is rich. Shilpa as a term extends to a whole range of cultural artefacts and a shilpin could be a sculptor, a potter, a perfumer, a painter, a weaver, an architect, and so on. Texts speak of there being as many as sixty-four arts and crafts: kalas, each carrying a different, distinctive name. The Shilparatna, the [Manasara](), the Chitralakshana, the Vishnudharmottaram, the [Mayamatam](), to name some, all concern themselves with the arts. Long descriptions and elaborate details in respect of the science and the art of architecture make up the text of the [Manasara](); rules relating to chitra—which includes painting and sculpture—concerned the unnamed author of the Vishnudharmottaram, to take examples. Some of

these will figure in the next section on iconography and iconometry naturally.

Surviving manuscripts of these texts—agamas, puranas, included—contain no images, however, so that one has to rely upon one's experience and imagination to construct a picture. Philosophical discussions come in sometimes, and abstract theories are formulated in these texts, not making it easy to get to the concrete heart of the matter sometimes. But a picture does emerge of bustling artistic activity and acute analysis.

Of equal interest are references to art and artefacts that one comes upon in literary works: the Buddhist jatakas, for instance; plays and cycles of tales, like the Shakuntala of Kalidasa or the Kathasarita Sagara; even in historical texts like the Muntakhab-al Tawarikh. Special interest comes to attach to these references for they come from ordinary life, as one might say, woven into daily occurrences or observations.

PART II: Icons and Their Measurements

The making of images—whether in the form of sculptures or as painting—was obviously a dominant concern, especially when the context was `sacred'. Icons—murtis or pratimas of a wide range of gods and goddesses—were conceived quite early on, and since they were meant to be worshipped, or paid homage to, clarity had to be achieved in respect of their appearance. Lakshanas—characteristic features or attributes— were established. Facial features, the colour of skin, the number of heads and arms, the jewellery they wore, etc., had to be arrived at; the attributes or ayudhas that sacred figures carried and almost defined them had to be laid down; names had to be given. Not unsurprisingly, therefore, iconography was a theme in itself, in early India, and text after text addressed it.

There is no single, self-contained text that defines and describes all icons; different Puranas list them, depending upon their orientation. The Linga Purana, for instance, would concentrate on the varieties and forms of lingas and Shaiva figures; the Bhagavata Purana would naturally emphasize icons that were Vaishnavite in affiliation. Lists keep varying as do, sometimes, descriptions. Basic images kept being built upon, elaborated, expanded, over time, and more and more

features—the number of arms, heads, ayudhas, for instance—kept being added. The Puranas apart, shilpa shastras contain long passages on iconography. This was not confined to `Hindu' deities or figures alone: Buddhist and Jaina texts also treated of iconography at length. There is overlapping and contradiction in these texts, but they carried weight with artists and devotees alike. An early text like the Chitralakshana of Nagnajit speaks at length of the lakshanas and anu-vyanjanas of the Chakravartin, for instance, and it is open to interpretation whether the Chakravartin—`the Wheel-Bearing One'—in it stands for a world conquering hero, or the Buddha.

Closely related to iconography was iconometry— the measurement of icons, involving scale and proportions—and this again is gone into in astonishing detail in many texts. Pramana was the concern, and ideal proportions had to be conceived and laid down as a matter of course. Even texts dealing with architecture contain references to iconography and iconometry. Units of measurements, starting from the smallest or minutest—the anu or 'atom'—and progressing upwards in multiples of eight to trasarenu (dust-mote), balagra (the tip of a hair), liksha (egg of a louse), yuka (a louse), yava (barley grain), angula (digit of the hand), tala (palm of the hand)—and going up to the number of talas that make up an ideal image occur frequently in texts on iconography. One comes upon micro measurements—how much does a nostril or the length of a curving eyebrow measure, for instance, or how much is the distance from the outer edge of the eye to the opening in the ear—as much as descriptions of uttama icons reaching the height of ten talas in different texts. Once again, texts vary in respect of details, but the concern with measurements and proportions stays.

PART III: Aesthetic Theory

Among all that is written on aesthetics in early India, what stands out is the idea of rasa: translated differently, and each time inadequately, as 'tincture', 'essence', 'flavour', 'sentiment', 'relish', among others. The word occurs in daily parlance in our lives, standing, in the physical sense, for sap or juice of plants, extract, fluid: of sugarcane or orange, for instance. In the secondary sense, it signifies—in parlance still—the nonmaterial essence of a thing, 'the best or finest part of it', like perfume which comes from matter, but is not so easy to describe or comprehend. In its tertiary sense, rasa denotes taste, flavour, relish, etc. But in its final and subtlest sense, however, rasa comes to signify a state of heightened delight, in the sense of ananda.

The theory of art that centres around the idea of rasa was enunciated for the first time, in the form that it has come down to our day, by the sage Bharata in the Natyashastra, that extraordinary work on the arts of the theatre, which is generally placed close to the beginning of the Common Era. The theory, as related to the arts of the stage, incorporating dance and music (natya) is 'immediately applicable to art of all kinds', in Coomaraswamy s words, includ-ing the visual arts. How rasa arises or is experienced by the viewer/reader/listener—through bhava (feeling or emotion) and its subsidiary varieties which are individually named—is slowly and carefully gone into the text, but still remains a question that begs other questions: for instance, does rasa belong to a work or only to the viewer; when does it come into being; is there only one rasa or does it consist of eight/nine types; what is the process; who deserves to experience it? Text after text therefore has addressed itself to these questions, uncovering layers, or adding to them, over a period of time, the most significant discussion of these occurring several hundred years after Bharata, by Abhinavagupta. As a part of the formal theory of art in India, rasa has remained a principal theme, authorities on literature, music, and dance all contributing to it over the years, in texts like the Vishnudharmottaram, the Sahitya Darpana, the Abhinaya Darpana. The concept of dhvani— suggestion—also figures in early Indian aesthetic theory, but does not occupy the same central position that rasa does.

In what manner, and the extent to which, the arts are related to one another is yet another theme of importance in discussions on aesthetics in early India—referred to in Part I, 'Early Textual References to Art'—although it does not bristle with as many, or as subtle, questions as those that attend upon the theme of rasa.

PART IV: Arts in Practice and as Observed

In the shilpa shastras—art/craft manuals—from early India, one might expect to find detailed and dense descriptions of materials, tools, processes, and the like, but the information is sometimes thin and often scattered. In respect of materials, for instance—on the types of stone, wood, clay, etc., in the case of sculpture, or grounds such as palm-leaf or paper, pigments, and brushes in the case of paintings—it is not easy to find passages of the kind that occur in texts in medieval Europe. A part of this might be due to the fact that information of this kind was preserved in families of artists/craftsmen and passed from one generation to the next without being written down. One has to glean and garner to be able to construct a picture: a very short passage from the classic Kalidasa play, Abhijnana Shakuntalam, might provide an insight; a casual reference in a tales-cycle, like the Kathasarita Sagara, can lead one to an understanding of how the arts operated. Some information, one needs to be aware, was recorded in quite late periods of time even though it might bear the stamp of authenticity because of having been collected from traditional families. The technique of paper-making might come therefore from a nineteenth-century Gazetteer, or that of preparing palm-leaf as a ground for writing or painting, from oral information gathered by a researcher from a family of scribes or painters. A text like the Qanun-al Suvar, written by a painter in seventeenth-century Persia, which goes into detailed descriptions of materials, processes, etc., of painting, exceedingly informative as it is, is not typical of India.

Official records or chronicles, like Abu'l Fazl's, paint pictures sometimes that could be removed from ground realities. The dispersed information one collects from notes or references made by visitors or travellers to India—a Fa Hsien, an Alberuni, a Thomas Roe, a Bernier, an Emily Eden—is invaluable in itself, even if it might be marked on occasions by inadequate information or hasty judgement. It is also possible that things were lost or misunderstood in translation when a foreigner asked questions or made his/her observations based on `facts' gathered from local informants, since preconceptions have a way of intruding and `facts' get mixed up sometimes with opinions. All the same, through the accounts left by travellers and inquirers one does gain a hesitant entry into the lives and working methods of artists.

PART V: Artists and Patrons

That there are no texts that treat artists and patrons per se, either from early India or from our medieval times, remains a fact. There certainly is some information, both on patrons and artists, but it is widely dispersed and episodic. One has therefore to face this situation and keep piecing things together. Even a rich text like Abu'l Fazl's Ain-i Akbari, which has a whole chapter on 'The Arts of Writing and Painting', does not enable one to grasp the situation that prevailed in Mughal India firmly: gaps remain and one has to speculate and read between lines. The interest of the emperor in the art of painting and calligraphy remains in focus in this chapter and there are eloquent passages describing his taste and his discrimination, and yet something lacks in the texture. Again, in his Memoir, that great aesthete, the emperor Jahangir (1569-1627 CE), speaks of different painters at his court and has high praise for their talents, speaks even of his own refined sensibilities—this is most valuable information, and yet one wishes that there had been more.

On their part, the artists rarely, if ever, speak of themselves. Some things come up in the odd document or two that have survived. One artist might be seen holding in his hand a humble petition to the emperor asking him to raise his emoluments; another might address a rani to similar effect beseeching her to cast another look at the drastic manner in which `rewards' that he used to receive have been shrinking; yet another might beg a patron to allow him to leave his service and go back to his home. There is no series of documents, however, to which one can turn for accurately gauging the position that artists occupied either at the court or in society. A chance survival is a group of `official' documents—consisting of land grants and terms of service—issued in the name of some Pahari painters who had taken up employment under Sikh chiefs at Lahore. The most consistent, and truly valuable, source of information on the artists is the entries to be found in the bahi-registers of priests at centres of Hindu pilgrimage, recording their visits, mentioning the occasion, giving a date,

detailing family connections. In this category of sources, the most outstanding of all documents is the nine-line entry made in the register of a priest by the painter Nainsukh when he visited Haridwar in VS 1820/1763 CE: an entry topped by a drawing on the same page made almost on an impulse by the painter himself.

Of great interest at the same time are occasional inscriptions left by artists—masons, carvers, master-sthapatis, and the like—on monuments that they had worked on, giving names or recording grants they had received from patrons. Similar to that category of information is the colophons found in manuscripts—either at the end or on flyleaves at the beginning—or at the conclusion of a series of paintings, either written by the painters themselves or some scribe/ librarian, recording names, dates, names of patrons, place of execution, sometimes even the occasion. To take some examples: a Kalpasutra might end with a colophon recording the names of scribes; a sub-imperial Ramayana prepared for the Khan-i Khanan carries a long note in his own hand speaking of the manuscript; a Gita Govinda series bears a date in the form of a chronograph that yields the year 1730 CE and gives the name of the painter Manaku; many manuscripts written and painted for highly placed patrons are filled with encomia and have survived in fair number; a Devi Mahatmya series in an unrelated style mentions a town in the Pahari region as its place of execution and provides a date in the form of a chronogram that is open to different interpretations. Controversies surround some of these colophons, but their value is enormous, for they are in the nature of a scaffolding needed for raising a structure of facts or reasoned speculation.

PART VI: Early Art Historical Writings

Indian art as an area of study and inquiry in itself attracted attention rather late. While descriptions, theories, judgements on art are clearly to be found, and very sensitive writing comes to hand from early India, revealing a deep understanding of what art is and does—at least from Bharata's Natyashastra onwards—there seems to have been very little written on the history of art. Schools and styles are seldom if ever discussed; chronologies do not seem to exist; there are no catalogues of collections; records of art and artists are rarely come upon. It

would in fact be hard to locate any texts prior to the nineteenth century that took account of the history of art as such or tracked its development in India.

The nineteenth century saw hesitant beginnings, some of these spurred by the interest that the British took in preparing a `record' of things in their newly acquired domains. There were no Surveys of Art, of the kind that were undertaken in respect of India's languages, for instance, its flora and fauna, or its people. The nearest that one comes to is the Archaeological Reports or Surveys in which art naturally figured, although not entirely in its own right. Some isolated studies were undertaken by Fergusson on architecture. However, it was the crafts of India and their development, and Indian design, that excited considerable interest early for all of that would fit into the larger scheme of things that the colonial power had in mind and of which founding schools of art was a part. The crafts of India were showcased in those grand exhibitions that were held both in India and abroad and thus came to be written about. `Industrial arts' turned into a subject of inquiry: the handbooks prepared by Baden-Powell or the works of George Birdwood can be cited as good examples. The most serious among works of this kind was the Journal of Indian Art and Industry that started being published from England in the fading years of the century, and was contributed to by serious students of art and design like Holbein Hendley and Lockwood Kipling. But the work was driven, it might be said, more by curiosity than by respect, and when it came to writings on Indian sculpture or painting, there was more often than not an undercurrent of sarcasm or dismissiveness. New discoveries—the discovery of Ajanta, for instance—elicited decided interest and were even viewed with some sympathy.

In the first quarter of the twentieth century, some histories of art were undertaken: Vincent Smith writing on the history of fine arts in India and Ceylon, for instance, or Percy Brown writing on Indian painting under the Mughals. At that time most Indian scholarship turned on the arts of India mostly from the standpoint of iconography, or concerned itself with locating ancient texts on the arts and translating them into English: thus the work of Gopinath Rao, Manmohan Ghose, Ram Raz, P.K.

Acharya, Abanindranath Tagore, and others. Against this context what stands out is the work of Ananda Coomaraswamy which came as a revelation to the outside world. He wrote with great sensitivity and passion, discovering new things, speaking of the spirit of India as reflected in its arts, building up connected accounts of developments in the areas of art and aesthetics. His work first on the Indian Craftsman and then on Rajput Painting, both published in the second decade of the twentieth century, set a benchmark. This was followed by a prodigious amount of writing, which included catalogues of collections and explorations of the other arts and modes of thought with which the arts of painting and sculpture were interwoven.

Coomaraswamy died in 1948. By that time, however, others, both in India and abroad, had begun to travel his path.

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Most recently, he co-edited the two-volume study which accompanied major exhibitions at the Museum Rietberg, Zurich and the Metropolitan Museum of Art, New York: Master of Indian Paintings: Volume 1: (1100-1650) & Volume 2 (1650-1900) edited by Milo C. Beach, Eberhard Fischer, B.N. Goswamy [Supplementum, Artibus Asiae Publishers, 9783907077504] alternative Indian reprint edition: Master of Indian Paintings: 2 Volumes by Milo C. Beach and Eberhard FischerIndian Reprint Edition: Niyogi Books, 9789383098682]

This two-volume set is the most comprehensive survey of Indian painting that the West has ever seen. Spanning 800 years and including some 240 masterpieces by more than 40 artists, it dispels the notion of anonymity in Indian art. The high points of artistic innovation in the history of Indian painting are demonstrated through works of the greatest Indian masters, some of whom are identified for the first time.

The book is structured chronologically, which is unusual since Indian paintings have traditionally been classified according to regional styles or dynastic periods, with an emphasis on subject matter and narrative content. Recent scholarship, however, has begun to securely link innovations in style with specific artists and their lineages, allowing a more precise chronology of the development of Indian painting.

Masters of Indian Painting 1100-1900 accompanies the exhibition "Wonder of the Age: Master Painters of India, 1100-1900" at the Metropolitan Museum of Art, New York.

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Contents: Volume I: Foreword; Introduction; Indian Painting from 1100 to 1500; Mahavihara Master; The Master of the Jainesque Sultanate Shahnama; The Master of the Devasano Pado Kalpasutra; Indian Painting from 1500 to 1575; The Masters of the dispersed Bhagavata Purana; Master of the Laur Chanda Series; 'Abd al-Samad; Indian Painting from 1575 to 1650; Basawan; Manohar; Keshav Das; Miskin; Farrukh Beg; Aqa Riza and Abu'l; 'Abid; Mansur; Bishandas; Muhammad 'Ali; The Masters of the Chunar Ragamala and the Hada Master; Daulat; Payag; Balchand; Govardhan; 'Ali Riza (The Bodleian Painter); Sahibdin; The Early Master at the Court of Mandi; Indian Painting from 1650 to 1730; Kripal, Devidasa and Golu of Nurpur; Masters of Early Kota Painting; The Sirohi Master; The First Bahu Master; The Master at the Court of Mankot, possibly Meju "The Stipple Master"; Bhavanidas Chitarman II (Kalyan Das); Dalchand; Indian Painting from 1730 to 1825; Nihal Chand; Mir Kalan Khan; Sahib Ram; Manaku; Nainsukh of ; The First Generation after Manaku and Nainsukh of Guler; Purkhu of Kangra; Bagta and Chokha; Indian Painting from 1825 to 1900; A Maisor Court Painter of the Early 19th Century; Masters of the "Company" Portraits; Ghasiram Sharma; Appendices: The Technique of Indian Painters; A short note; Painting Workshops in Mughal India; Bibliography; Image Credits; Index of Painters.

Volume II: Foreword; Introduction; Indian Painting from1100 to 1500; Mahavihara Master; The

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Among his many publications are:

[The Spirit of Indian Painting: Close Encounters with 101 Great Works 1100-1900](#) [Thames & Hudson, 978-0500239506]

"Wonderful . . . A book to make both layman and connoisseur alike realize why pre-modern Indian painting is one of the great arts of the world." —Neil MacGregor Through close encounters with over a hundred carefully selected works, spanning nearly a thousand years, and ranging from Jain manuscripts and Pahari and Mughal miniatures to Company School paintings, B. N. Goswamy unlocks the many treasures that lie within Indian painting. In an illuminating introduction, and as Goswamy relates the stories behind each work and deciphers the visual vocabulary and language of the painters, he brings to life the cultural, social, and political milieu in which they were created. Lavishly illustrated, and combining erudition with great storytelling, [The Spirit of Indian Painting](#) reveals the beauty of this richly varied body of work in a new and brilliant light. 210 illustrations

[Manaku of Guler: The Life and Work of Another Great Indian Painter From a Small Hill State](#) by B. N. Goswamy [Niyogi Books, 9789385285820]

Brings together two uncommonly gifted individuals: an 18th century Indian painter and a 21st century art historian. The fruit of this collaboration across time between painter and art historian makes for compelling reading: This is a work of an art historian who has ferreted out, from a virtually anonymous tradition, information on individual painters, and, after bringing them out of obscurity, has been writing on them with rare insights and warmth. This study tells the story of a lesser known Pahari painter with immense individual talent.

This work centers upon Manaku of Guler - older brother of the greatly celebrated Nainsukh - reconstructing whatever little is known of his life, but following closely his artistic journey. Manaku came from an obscure little town in the hills of northern India - home to his singularly talented family - and yet his vision knew almost no limits. Endowed with soaring imagination and great painterly skills, this man - with a name that literally means a ruby, whose glow keeps hinting at an inner fire - was capable of painting giant rings of time upon timeless waters, envisioning the world of gods and demons, littered with cosmic battles and earthly triumphs.

At least three great series were painted by Manaku: the Siege of Lanka which took forward the narrative of the Ramayana from the point where his father, the gifted Pandit Seu, had left it; the Gita Govinda and the Bhagavata Purana. Every single folio that has survived and is at present accessible - the number comes close to five hundred - from these series finds a place in this uncommonly rich volume.

[Pahari Masters: Court Painters of Northern India](#) by B.N. Goswamy, Eberhard Fischer [Niyogi Books, 9788189738464]

This volume identifies and evaluates the work of twelve classic Pahari court painters. Hailed as a "great work" when published in German, this book is beautifully designed and illustrated with over

100 color plates. It is unique for its scholarship and the range of material covered.

I See No Stranger: Sikh Early Art and Devotion by B. N. Goswamy, Caron Smith [Mapin Publishing Gp Pty Ltd, 9781890206048]

The goal of this catalogue and the exhibition it documents is to bring together and illuminate works of art that identify core Sikh beliefs. <>

The Weather Detective: Rediscovering Nature's Secret Signs by Peter Wohlleben, translated by Ruth Ahmedzai Kemp [Dutton, 9781524743741]

The internationally bestselling author of The Hidden Life of Trees shows how we can decipher nature's secret signs by studying the weather.
In this first-ever English translation of The Weather Detective, Peter Wohlleben uses his long experience and deep love of nature to help decipher the weather and our local environments in a completely new and compelling way. Analyzing the explanations for everyday questions and mysteries surrounding weather and natural phenomena, he delves into a new and intriguing world of scientific investigation.

At what temperature do bees stay home? Why do southerly winds in winter often bring storms? How can birdsong or flower scents help you tell the time? These are among the many questions Wohlleben poses in his newly translated book. Full of the very latest discoveries, combined with ancient now-forgotten lore, The Weather Detective helps you read nature's secret signs and discover a rich new layer of meaning in the world around you.

Excerpt:

On Nature's Trail

The moment we step out of the door and stroll through the garden or a nearby park, we are surrounded by nature. Thousands of processes, from the minute to the gargantuan, are unfolding all around us, and they are fascinating and beautiful to behold—if only we open up our senses and take notice of them.

In the past, it was vital that everyone could recognize and interpret these signs. People were dependent on nature and intimately familiar with it. Nowadays, fully stocked supermarket shelves, constant energy supplies, and measures in place to ensure us against any conceivable act of nature all trick us into thinking that we no longer rely on our ancient bond with the natural world. Our distance from nature is particularly obvious during hot, dry summers. While farmers and foresters are desperate for rain, most of the urban population is delighted to hear forecasts predicting ongoing dry weather, oblivious to the impact of a prolonged drought. And yet, in the face of climate change and damage to the environment, it is more urgent than ever that we recognize and understand the signs of nature. Only then will we appreciate what we stand to lose.

Television, radio, and the internet all make gazing out of the window to find out what the weather is like rather redundant. We have countless specialized services at our fingertips to let us know what is going on outside in the garden. There are regular updates for everything we could possibly imagine wanting to know about—from whether we're faced with rain or shine, to when birds will migrate or aphids hatch—and such information is readily available for anyone interested to look it up. If you want even more precise prognostic data, you can simply install an electronic weather station outside that sends a live feed to you in the comfort of your living room.

But if you enjoy gardening and spending time in nature, you can manage perfectly well without these bulletins updating you constantly about the weather. We can glean most of the same information from clues around the garden, from the animals and plants in our local area; in fact, even from the inanimate environment. Whether it's

forecasting what's ahead or assessing current weather events, whether it's insect infestations or when it's safe to say a season has started or ended, you can read all of this data from your garden much more accurately than any newsreader from a teleprompter. There can be a huge difference, after all, between your garden and another location just a few miles away in terms of how a natural event unfolds and the impact it has.

And that is ultimately why we look to media forecasts: to assess the situation on our doorstep.

This guide will help you to decipher the vast quantities of information you can glean from your local environment and especially your garden. You can become your own nature expert. It will address many everyday questions that in the future you'll be able to answer for yourself; and many phenomena will suddenly be easier to understand when you know the background.

The most important motivation for writing this book was the prospect of encouraging more people to take pleasure in time spent outdoors and relaxing outside. How wonderful it is to experience things consciously that you had until now passed by obliviously. How exciting it is to foresee changes in the weather, and in flora and fauna, before they happen. When we are out and about, experiencing our surroundings with all our senses, nature is closer to us than ever before. And the ancient bond between us and our environment can be renewed.

How Borges Wrote by Daniel Balderston [University of Virginia Press, 9780813939643] A distinguished poet and essayist and one of the finest writers of short stories in world letters, Jorge Luis Borges (1899 – 1986) deliberately and regularly altered his work by extensive revision. In How Borges Wrote, renowned Borges scholar Daniel Balderston undertakes to piece together Borges's creative process through the marks he left on paper.

Balderston is Andrew W. Mellon Professor of Modern Languages at the University of Pittsburgh and the author of Out of Context: Historical Reference and the Representation of Reality in Borges. Balderston has consulted over 170 manuscripts and primary documents to reconstruct the creative process by which Borges arrived at his final published texts. How Borges Wrote is

organized around the stages of his writing process, from notes on his reading and brainstorming sessions to his compositional notebooks, revisions to various drafts, and even corrections in already-published works. How Borges Wrote includes hundreds of reproductions of Borges's manuscripts, allowing readers to see clearly how he revised and 'thought' on paper. The manuscripts studied include many of Borges's most celebrated stories and essays — "The Aleph," "Kafka and His Precursors," "The Cult of the Phoenix," "The Garden of Forking Paths," "Emma Zunz," and many others — as well as lesser known but important works such as his 1930 biography of the poet Evaristo Carriego. How Borges Wrote is organized around the materiality of the manuscripts themselves: the notes on Borges's reading as these are inscribed in his manuscripts, two sets of jottings from brainstorming sessions, formal features of the composition notebooks such as the ways of annotating possibilities, techniques for insertions and the use of margins, the copying of rough manuscripts to second drafts or fair copies, the examination of two typescripts, and the use of published texts to note down possible revisions for future versions. Balderston does not deal with the manuscripts in chronological order but instead follow a logic suggested by the manuscripts themselves. In fact, the earliest manuscripts he has worked on, "Trinchera" and "Judería," are discussed almost at the end of How Borges Wrote because what interests him in them, he says, is how the manuscript pages show several stages of revision (in these cases, with an interval of a few years in one and of many in the other). Through this process he elucidates the ways in which Borges's poetics are shaped by his compositional techniques. Borges is one of the twentieth century's most influential writers and is someone who has a lot to say about the writing process; the study of his own process or compositional practices can add a lot to an understanding of his ideas. Borges writes in "La supersticiosa etica del lector" (1931; "The Superstitious Ethics of the Reader"): "La pagina de perfeccion, la pagina de la que ninguna palabra puede ser alterada sin dano, es la mas precaria de todas" (The perfect page, the page in which no word can be altered without harm, is the most precarious of all [Selected Non-Fictions]). In "Las versiones homericas" (1932; "The Homeric Versions"), he adds that "no puede haber sino

borradores. El concepto de texto definitivo no corresponde sino a la religion o al cansancio" (there can only be drafts. The concept of the 'definitive text' corresponds only to religion or exhaustion [Selected Non-Fictions]). Daniel Balderston is one of the leading Borges scholars of our time, internationally respected both for the depth and extent of his knowledge and for his meticulous scholarship. How Borges Wrote is the first comprehensive book published on Borges's composition techniques and promises to be the definitive study for the foreseeable future. A monumental work. — Evelyn Fishburn, University College London, author of Hidden Pleasures in Borges's Fiction and coauthor of A Dictionary of Borges In a sophisticated and probing study of hundreds of manuscripts and notebooks, Daniel Balderston sheds light on Borges's creative process by analyzing how the Argentine author used marginal annotations, textual excisions and insertions, and mathematical symbols to produce some of the most original pieces of literature in the twentieth century. Balderston's extraordinary erudition and refined critical skills dramatically transform our understanding of Borges's work — and shape the way twill be read in the future. — Fernando Degiovanni, The Graduate Center, CUNY, author of Los textos de la patria: Nacionalismo, politicas culturales y canon en Argentina As the first and only attempt at a systematic and comprehensive study of the trajectory of Borges's creative process, How Borges Wrote will become a definitive work for all scholars who wish to trace how Borges wrote. This book shows how important the concept of the open text was to Borges, and the ways in which his manuscripts show him working out a poetics of uncertainty, incompleteness, and possibility. <>

What Truth Sounds Like: Robert F. Kennedy, James Baldwin, and Our Unfinished Conversation About Race in America by Michael Eric Dyson [St. Martin's Press, 9781250199416]

Now a New York Times bestseller

Named a best/most anticipated book of 2018 by: Chicago Tribune • Time • Publisher's Weekly

A stunning follow up to New York Times bestseller [Tears We Cannot Stop: A Sermon to White America](#)

The Washington Post: "Passionately written."

Chris Matthews, MSNBC: "A beautifully written book."

Shaun King: "I kid you not—I think it's the most important book I've read all year..."

Harry Belafonte: "Dyson has finally written the book I always wanted to read. .a tour de force...a poetically written work that calls on all of us to get back in that room and to resolve the racial crises we confronted more than fifty years ago."

Joy-Ann Reid: A work of searing prose and seminal brilliance... Dyson takes that once in a lifetime conversation between black excellence and pain and the white heroic narrative, and drives it right into the heart of our current politics and culture, leaving the reader reeling and reckoning."

Robin D. G. Kelley: "Dyson masterfully refracts our present racial conflagration through a subtle reading of one of the most consequential meetings about race to ever take place. In so doing, he reminds us that Black artists and intellectuals bear an awesome responsibility to speak truth to power."

President Barack Obama: "Everybody who speaks after Michael Eric Dyson pales in comparison."

In 2015 BLM activist Julius Jones confronted Presidential candidate Hillary Clinton with an urgent query: "What in your heart has changed that's going to change the direction of this country?"

"I don't believe you just change hearts," she protested. "I believe you change laws."

The fraught conflict between conscience and politics – between morality and power – in addressing race hardly began with Clinton. An electrifying and traumatic encounter in the sixties crystallized these furious disputes.

In 1963 Attorney General Robert Kennedy sought out James Baldwin to explain the rage that threatened to engulf black America. Baldwin brought along some friends, including playwright Lorraine Hansberry, psychologist Kenneth Clark, and a valiant activist, Jerome Smith. It was Smith's relentless, unfiltered fury that set Kennedy on his heels, reducing him to sullen silence.

Kennedy walked away from the nearly three-hour meeting angry – that the black folk assembled didn't understand politics, and that they weren't as easy to talk to as Martin Luther King. But especially that they were more interested in witness than policy. But Kennedy's anger quickly gave way to empathy, especially for Smith. "I guess if I were in his shoes…I might feel differently about this country." Kennedy set about changing policy – the meeting having transformed his thinking in fundamental ways.

There was more: every big argument about race that persists to this day got a hearing in that room. Smith declaring that he'd never fight for his country given its racist tendencies, and Kennedy being appalled at such lack of patriotism, tracks the disdain for black dissent in our own time. His belief that black folk were ungrateful for the Kennedys' efforts to make things better shows up in our day as the charge that black folk wallow in the politics of ingratitude and victimhood. The contributions of black queer folk to racial progress still cause a stir. BLM has been accused of harboring a covert queer agenda. The immigrant experience, like that of Kennedy – versus the racial experience of Baldwin – is a cudgel to excoriate black folk for lacking hustle and ingenuity. The questioning of whether folk who are interracially partnered can authentically communicate black interests persists. And we grapple still with the responsibility of black intellectuals and artists to bring about social change.

What Truth Sounds Like exists at the tense intersection of the conflict between politics and prophecy – of whether we embrace political resolution or moral redemption to fix our fractured racial landscape. The future of race and democracy hang in the balance.

Excerpt:

After the Meeting Resurrection for RFK

If Martin Luther King Jr.'s martyrdom instantly transformed him from social pariah to high priest of American moral possibility, then Robert F. Kennedy's assassination remade him in the image of an ideal self he labored hard to craft in the last few years of his life. When Sirhan Sirhan shot Kennedy on June 5, 1968, two months and a day after King's murder, the course of American history was once again violently changed. The prospects for racial healing that Kennedy's evolved thinking had promised were bitterly dashed.

Bobby had come a long way from his earliest days in the public eye. After Jack's assassination, Bobby resigned as attorney general to become a New York senator. He began to delve far more deeply into the urban crisis he was made to see brewing when he met with Baldwin and friends. Although Bobby and Baldwin and his peers came away from that meeting deeming it a disaster, it liberated Bobby from his political pragmatism. Bobby began to walk in the shoes of the dispossessed, to take in their stories up close, to witness the mangled faces of babies bitten by rats, to smell the social death that lingered in the air after flames settled into embers and eventually lined the streets with soot. If he had learned anything from his brutal encounter with Baldwin, it was that, whether he wanted to or not, he had to listen to the unfiltered rage that tore at the hearts and minds of millions of Negroes.

Bobby learned to see race as more than a political matter and began to see racism as Baldwin and his group had urged him to see it: as moral rot at the heart of the American empire. "I have seen the people of the black ghetto,' Bobby said on March 18, 1968, a couple of days after he announced his candidacy for the presidency, "listening to ever greater promises of equality and of justice, as they sit in the same decaying schools and huddled in the same filthy rooms—without heat—warding off the cold and warding off the rats. If we believe that we, as Americans, are bound together by a common concern for each other, then an urgent national priority is upon us. We must begin to end the disgrace of this other America.'"

When King was murdered in Memphis, Bobby was profoundly changed, perhaps feeling as Baldwin felt after King's death—that he was the last witness left, the last one to give convincing testimony to the American public about the wages of racial sin and the righteous path to political redemption. When Bobby calmed and consoled a black crowd in Indianapolis to whom he announced King's death, he offered eloquent testimony about the need to move away from polarization and to make "an effort to understand, to go beyond these rather difficult times.'" Bobby pleaded with the crowd that what "we need in the United States is not division; what we need in the United States is not hatred; what we need in the United States is not violence or lawlessness, but love and wisdom, and compassion toward one another, and a feeling of justice towards those who still suffer within our country, whether they be white or they be black."

Bobby contended that "the vast majority of white people and the vast majority of black people in this country want to live together, want to improve the quality of our life, and want justice for all human beings who abide in our land." That may not have been any truer then than it is now—King in his later years believed that "most Americans are unconscious racists"3—but it was important that a national political figure utter those words in unrepentant optimism and durable hopefulness. We are now living with a political leader so corrupted by an incurable doubt about the goodness of his fellow citizens that his disbelief in our creeds amounts to a chilling renunciation of American ideals. Bobby nurtured such beliefs as a sublime

political reflex; Trump undercuts them as a subversive political reactionary.

This is not to say that Bobby had been flawless, that he had got past his callous ways. At the hotel after his moving speech about King, Bobby made what appeared to be a heartless exclamation about the fallen leader's assassination. "After all, it's not the greatest tragedy in the history of the Republic." Even though he called Coretta Scott King and arranged to have King's body flown back to Atlanta, Bobby didn't really mourn a man he'd never been especially close to or even fond of. King grew to believe that Bobby should be supported and respected; Bobby distrusted King and seemed stricken by guilt for wiretapping him. And yet Bobby was ushered by history to King's side to partner in the work of racial justice.

By the time Bobby perished, the policy he had once touted was brilliantly implemented by his arch nemesis Lyndon Baines Johnson. Bobby had become known as a racial healer, even a prophet of sorts and, ironically, a witness for the invisible poor. He had come to embody the moral message of Baldwin and his fellow witnesses. Baldwin may have thought that their meeting was useless; Clark may have written it off as a resounding failure, just as Bobby had, but in the end, Bobby became what he couldn't understand at the time: a fierce witness to the suffering of black people.

Bobby had only just begun; his martyrdom made him more in death than he had been in life. His death brought him closer to an image of the racial ombudsman he had aspired to be, an image that still inspires us to be compassionate toward the most marginal members of our society.

Bobby's achievements have continued after death as his memory stretches the horizons of our sight far beyond the bigotries that blind us. Bobby is bigger now than he has ever been. A meeting with a few angry black folk more than fifty years ago taught him a valuable lesson about listening to what you don't want to hear. It is a lesson we must learn today if we are to overcome our differences and embrace a future as bright as our dreams allow. <>

She Has Her Mother's Laugh: The Powers, Perversions, and Potential of Heredity by Carl Zimmer [Dutton, 9781101984598]

Award-winning, celebrated New York Times columnist and science writer Carl Zimmer in She Has Her Mother's Laugh presents a profoundly original perspective on what we pass along from generation to generation.

Zimmer, who teaches science writing at Yale University, writes the Matter column for the New York Times and has frequently contributed to The Atlantic, National Geographic, Time, and Scientific American.

Charles Darwin played a crucial part in turning heredity into a scientific question, and yet he failed spectacularly to answer it. The birth of genetics in the early 1900s seemed to do precisely that. Gradually, people translated their old notions about heredity into a language of genes. As the technology for studying genes became cheaper, millions of people ordered genetic tests to link themselves to missing parents, to distant ancestors, to ethnic identities...
But, Zimmer writes in She Has Her Mother's Laugh, "Each of us carries an amalgam of fragments of DNA, stitched together from some of our many ancestors. Each piece has its own ancestry, traveling a different path back through human history. A particular fragment may sometimes be cause for worry, but most of our DNA influences who we are — our appearance, our height, our penchants — in inconceivably subtle ways." Heredity isn't just about genes that pass from parent to child. Heredity continues within our own bodies, as a single cell gives rise to trillions of cells that make up our bodies.

Heredity determined how crowns and thrones were passed down through the generations. Genetics revealed in profound detail how diseases and traits like eye color and intelligence were influenced by heredity. But heredity flows through other channels as well — from cultural practices to the environments we build around ourselves and our descendants.

She Has Her Mother's Laugh guides readers to a new understanding of what humans have received from the generations past and what they can pass along to the future. While people may think they know what heredity is, Zimmer explains that they think about it in terms that are obsolete. Genes are

a shuffled sampling from ancestors, mixed together in combinations of unfathomable complexity. And now humans are gaining the power to rewrite genes in plants and animals – perhaps even humans – to pass down to future generations.

Zimmer believes people urgently need a new definition of heredity given recent discoveries and our history of misusing such scientific knowledge. In this book, the most ambitious work of his career, Zimmer presents a historical and scientific account of heredity spanning millennia and culminating with essential insights into the awesome potential humans have now acquired to shape their future. She Has Her Mother's Laugh is the new definition of heredity that is needed now. It has a surprise on almost every page as it builds a new definition of a fundamental concept in human economics, politics, and culture.

Weaving historical and current scientific research, his own experience with his two daughters, and the kind of original reporting expected of one of the world's best science journalists, Zimmer ultimately unpacks urgent bioethical quandaries arising from new biomedical technologies, but also long-standing presumptions about who we really are and what we can pass on to future generations.

Extraordinary... This book is Zimmer at his best: obliterating misconceptions about science with gentle prose. He brings the reader on his journey of discovery as he visits laboratory after laboratory, peering at mutant mosquitoes and talking to scientists about traces of Neanderthal ancestry within his own genome. Any fan of his previous books or his journalism will appreciate this work. But so, too, will parents wishing to understand the magnitude of the legacy they're bequeathing to their children, people who want to grasp their history through genetic ancestry testing and those seeking a fuller context for the discussions about race and genetics so prevalent today. – The New York Times Book Review

Into this zeitgeist enters Carl Zimmer's most enjoyable new book, She Has Her Mother's Laugh, with a sweeping overview of the history of our understanding of heredity... [He is] one of the best science journalists of our time. – Science

A magnificent work... Journalist Zimmer masterfully blends exciting storytelling with first-rate science

reporting. His book is as engrossing as it is enlightening. – Publishers Weekly, starred review
A thoroughly enchanting tour of big questions, oddball ideas, and dazzling accomplishments of researchers searching to explain, manipulate, and alter inheritance. – Kirkus Reviews, starred review
A wide-ranging and eye-opening inquiry into the way heredity shapes our species. – Booklist, starred review
No one unravels the mysteries of science as brilliantly and compellingly as Carl Zimmer, and he has proven it again with She Has Her Mother's Laugh – a sweeping, magisterial book that illuminates the very nature of who we are. – David Grann, author of Killers of the Flower Moon and The Lost City of Z
She Has Her Mother's Laugh is at once far-ranging, imaginative, and totally relevant. Carl Zimmer makes the complex science of heredity read like a novel, and explains why the subject has been – and always will be – so vexed. – Elizabeth Kolbert, author of Pulitzer Prize-winning The Sixth Extinction
Humans have long noticed something remarkable, namely that organisms are similar but not identical to their parents – in other words, that some traits can be inherited. From this observation has grown the elegant science of genetics, with its dazzling medical breakthroughs. And from this has also grown the toxic pseudosciences of eugenics, Lysenkoism and Nazi racial ideology. Carl Zimmer traces the intertwined histories of the science and pseudoscience of heredity. Zimmer writes like a dream, teaches a ton of accessible science, and provides the often intensely moving stories of the people whose lives have been saved or destroyed by this topic. I loved this book. – Robert Sapolsky, Stanford University, author of Behave
She Has Her Mother's Laugh is a masterpiece – a career-best work from one of the world's premier science writers, on a topic that literally touches every person on the planet. – Ed Yong, author of I Contain Multitudes
One of the most gifted science journalists of his generation, Carl Zimmer tells a gripping human story about heredity from misguided notions that have caused terrible harm to recent ongoing research that promises to unleash more powerful technologies than the world has ever known. The breadth of his perspective is extraordinarily compelling, compassionate, and valuable. Please

read this book now. – Jennifer Doudna, UC Berkeley, coauthor of A Crack in Creation

Carl Zimmer is not only among my favorite science writers – he's also now responsible for making me wonder why there is more Neanderthal DNA on earth right now than when Neanderthals were here, and why humanity is getting taller and smarter in the last few generations. She Has Her Mother's Laugh explains how our emerging understanding of genetics is touching almost every part of society, and will increasingly touch our lives. – Charles Duhigg, author of Smarter Faster Better and The Power of Habit

Traversing time and societies, the personal and the political, the moral and the scientific, She Has Her Mother's Laugh takes readers on an endlessly mesmerizing journey of what it means to be human. Carl Zimmer has created a brilliant canvas of life that is at times hopeful, at times horrifying, and always beautifully rendered. I could hope for no better guide into the complexities, perils, and, ultimately, potential of what the science of heredity has in store for the world. – Maria Konnikova, author of The Confidence Game

Every decade or so, a book comes along that changes something deep down in the way we think about what it means to be human. She Has Her Mother's Laugh is one of those books. A masterwork of science writing, it is a tremendously compelling book, praised by leading scientists, bestselling authors, and the author's peers in the top echelons of journalism.

Neolithic Alepotrypa Cave in the Mani, Greece edited by Anastasia Papathanasiou, William A. Parkinson, Daniel J. Pullen, Michael L. Galaty, & Panagiotis Karkanas [Oxbow: 9781785706486]

Alepotrypa Cave at Diros Bay, Lakonia, Greece, is a massive karstic formation of consecutive chambers ending at a lake. The cave was excavated by G. Papathanasopoulos from 1970 to 2006. In conjunction with the surrounding area, it was used as a complementary habitation area, burial site, and place for ceremonial activity during the Neolithic c 6000 to 3200 BC. As a sealed, single-component, archaeological site, the Neolithic settlement complex of Alepotrypa Cave is one of the richest sites in Greece and Europe in terms of number of artifacts, preservation of biological materials, volume of undisturbed deposits, and

horizontal exposure of archaeological surfaces of past human activity and this publication is an important contribution to ongoing archaeological research of the Neolithic Age in Greece in particular, but also in Anatolia, the Balkans and Europe in general. Neolithic Alepotrypa Cave in the Mani, Greece, an edited volume, offers a scholarly interdisciplinary study and interpretation of the results of approximately 40 years of excavation and analysis. It includes numerous chemical analyses and a much needed long series of radiocarbon dates, the corresponding microstratigraphic, stratigraphic and ceramic sequence, the human burials, stone and bone tools, faunal and floral remains, isotopic analyses, specific locations of human activities and ceremonies inside the cave, as well as a site description and the history of the excavation conducted by G. Papathanasopoulos.

Editors are Anastasia Papathanasiou, an archaeologist with the Greek Ministry of Culture in the Ephorate of Paleoanthropology and Speleology; William A. Parkinson, Associate Curator of Eurasian Anthropology at the Field Museum of Natural History in Chicago; Daniel J. Pullen, Professor of Classics at Florida State University; Michael L. Galaty, Professor of Anthropology at Mississippi State University, where he is Head of the Department of Anthropology and Middle Eastern Cultures, and Interim Director of the Cobb Institute of Archaeology; and Panagiotis (Takis) Karkanas, the Director of the Malcolm H. Wiener Laboratory for Archaeological Science in the American School of Classical Studies at Athens. The book has 26 contributors.

The Greek Neolithic Period lasted from 6,800 BC to 3,200 BC. Archaeological evidence for the Greek Neolithic is based mainly on Thessalian and Northern Greek open-air sites, either flat sites or tells, while evidence from Southern Greece is less abundant and rather under-represented. Therefore, a purpose of Neolithic Alepotrypa Cave in the Mani, Greece is to contribute to filling this void, and to document, through a multidisciplinary approach, an extremely important and culturally rich site, aiming to define both its particularities and its position in the broader natural and cultural landscape.

The artifact backlog from the 1970 to 2006 excavation seasons at Alepotrypa was studied and the results are published in Neolithic Alepotrypa Cave in the Mani, Greece. This contribution is essential to current Neolithic research as it brings a unique site, one of the most important in Europe, to the attention of the archaeological community. Most crucially, this volume is a multidisciplinary work of more than twenty specialized researchers, addressing all kinds of cultural and environmental material. The book includes work based on numerous chemical analyses and a long series of radiocarbon dates (much needed for this period) in relation to the corresponding microstratigraphic, stratigraphic, and ceramic sequences. Taken as a whole, the study presents detailed scientific observations and dates interrelated within the framework of a broader interpretive picture, in an effort to understand the specificities of the site, the social actions, the natural and cultural landscapes and the lifeways existing at that point in prehistory.

The last chapter, by A. Papathanasiou, is a synthesis of the results presented in all the previous chapters. The chapter raises the matter of the use of caves in the Neolithic, storage and habitation in a cave, ritual/ceremonial expression, monumentality, continuity, seasonality, structured deposits and patterning, long distance trade, agricultural and husbandry practices and the significance of domesticates.

Neolithic Alepotrypa Cave in the Mani, Greece is the first definitive publication on the major Neolithic settlement, cemetery and ceremonial site of Alepotrypa Cave, Greece, which is virtually unique in its preservation of undisturbed archaeological deposits including biological material, a wealth of artifacts and burials, following collapse of the cave roof. It describes an unprecedented sequence of Neolithic deposits and burials supported by radiocarbon dating. It presents detailed spatial analyses of cultural and environmental material in order to define and examine the distribution and nature of specific human activities.

The twenty-three chapters of Neolithic Alepotrypa Cave in the Mani, Greece bring this significant site to the attention of the archaeological community, after more than 40 years of excavations. Furthermore, this volume tightens the relation between the sciences and the humanities,

materiality and social practices, and in particular archaeological science and observation with anthropological socialized interpretation.

Neolithic Alepotrypa Cave in the Mani, Greece offers a full scholarly and interdisciplinary study and interpretation of Neolithic Alepotrypa Cave's rich material and cultural record. The results of the excavations in Alepotrypa Cave will prove crucial to subsequent archaeological research, in that they establish regional artifact typologies, refine chronologies and yield information critical for understanding the material culture and the social organization of later Neolithic societies in the Aegean and the Balkans. They contribute to a better understanding of human behavior and cultural evolution for the broader Neolithic by describing and interpreting aspects of change, continuity, ritual expression and material culture.

Scale and the Incas by Andrew James Hamilton [Princeton University Press, 9780691172736]

A groundbreaking work on how the topic of scale provides an entirely new understanding of Inca material culture. A beautifully produced book with a near perfect integration of text and illustrations.
Although questions of form and style are fundamental to art history, the issue of scale has been surprisingly neglected. Yet, scale and scaled relationships are essential to the visual cultures of many societies from around the world, especially in the Andes. In Scale and the Incas, Andrew Hamilton presents a groundbreaking theoretical framework for analyzing scale, and then applies this approach to Inca art, architecture, and belief systems.

The Incas were one of humanity's great civilizations, but their lack of a written language has prevented widespread appreciation of their sophisticated intellectual tradition. Expansive in scope, this book examines many famous works of Inca art including Machu Picchu and the Dumbarton Oaks tunic, more enigmatic artifacts like the Sayhuite Stone and Capacocha offerings, and a range of relatively unknown objects in diverse media including fiber, wood, feathers, stone, and metalwork. Ultimately, Hamilton demonstrates how the Incas used scale as an effective mode of expression in their vast multilingual and multiethnic empire.

Lavishly illustrated with stunning color plates created by the author, the book's pages depict artifacts alongside scale markers and silhouettes of hands and bodies, allowing readers to gauge scale in multiple ways. The pioneering visual and theoretical arguments of Scale and the Incas not only rewrite understandings of Inca art, but also provide a benchmark for future studies of scale in art from other cultures.

CONTENTS

Excerpt:

The Inca Intellectual Tradition

The following chapters explore wide-ranging aspects of Inca material culture, built environments, and worldviews to evidence the ways they utilized scaled relationships to embed and communicate meaning in their world. These practices reveal new ways that art and architecture functioned within their society, and invite comparisons with other civilizations in the Andes and elsewhere. But just as the preceding discussions of European concepts historically contextualized scale in sixteenth-century European thought, so too is it necessary to introduce further facets of Inca knowledge to indicate scale's role in their broader intellectual tradition.

The main challenge to defining the Inca intellectual tradition and one of its defining features—was their technology for recording knowledge. As previously noted, the Incas never utilized writing to record the many languages spoken across their empire. Fiber was an extremely important medium in Andean societies and was used by Incas to store and transport information. Likely based on a device first developed by the earlier Huari civilization, the Incas utilized a system of knotted and conjoined strings that they called a quipu. Meaning was imparted through different shapes, combinations, and numbers of knots, as well as the ways the cords were arranged, attached, colored, spun, and plied. Unfortunately, no colonial writer sufficiently described the process through which

information was encoded, making it difficult to access the knowledge in extant examples.

It is also unclear what relationship quipus may have had with spoken languages. A dialect of Quechua was utilized by the Incas as an administrative lingua franca. However, as linguist Bruce Mannheim has explained, "although local elites were educated in the administrative language, the Inkas do not appear to have made an effort to implant a unified standardized language across the empire. On the contrary, even the area around the Inka capital itself was a linguistic mosaic. In the central highlands of Peru, Southern Peruvian Quechua represented an eggshell-thin overlay on the Quechua languages already spoken there. As chronicler Miguel Cabello Valboa described in his Miscelánea Antártica of 1586, "they speak so many languages, so different from each other ... that I believe there aren't numbers high enough to count them, there are so many. This is so notable that in many provinces one doesn't go a league without coming across another language, as remote and distinct from the first as Castilian Spanish from Basque, or from English, or from African languages."' Because of this immense linguistic diversity, it is worth questioning whether quipus bore any relation to a spoken language or were a system of notation that could be vocalized in any language.

These issues make deciphering quipus a great challenge. In the early 1900s, L. Leland Locke successfully revealed how numbers were encoded by demonstrating mathematical sums. In the century since, scholars have meticulously studied the surviving corpus of approximately eight hundred quipus, but more complex or abstract methods of signification are still not well understood. For the present study, this means that if surviving quipus attest to Inca engagements with scale, such knowledge cannot yet be recovered.

Locke's breakthrough revealed much about Inca numerical and mathematical concepts. The Incas actually counted similarly to the Hindu-Arabic numerals we use today. Their number system was base ten and demarcated zero through an absence of knots. Units of 10, 100, and 1,000 were represented using a single overhand knot in various placements. The numbers 2 through 9 were created with a knot visually similar to a hangman's knot,

which scholars call a "long knot." Its number of coils denoted its value. Critically, 1 received its own special knot. The practical reason for this was that a long knot cannot be made with only one turn. Moreover, were 1 recorded through a single knot, it would be easily confused with 10 and 100. The source of this confusion, however, is of great theoretical importance. Quipu knots were read relationally. The number 1 cannot be understood relationally, as it is single and alone, and thus was demarcated by a unique knot. This reliance on relationality to construct and convey meaning is the very basis of scaled relationships.

The decipherment of the number system made possible extensive studies of Inca arithmetic. Nonetheless, more sophisticated forms of mathematical knowledge have been difficult to prove in quipus because of their complex structures. In the European tradition, geometry provided methods for considering spatial relationships between objects. The Incas, however, did not develop the same theoretical understanding. As the chronicler El Inca Garcilaso de la Vega explained, the Incas "knew a great deal of geometry because this was necessary for measuring their lands, and adjusting the boundaries and dividing them. But this was physical knowledge, obtained with strings and stones used for counting and dividing, and nothing to do with heights in degrees or any other speculative method." Quipu scholar, anthropologist, mathematician, and textile specialist Carrie Brezine has suggested that in the absence of Euclidean geometry, Incas might have conceptualized space through textile structures—to a very different end."' While a Euclidean plane is without depth and extends infinitely, a textile plane has two surfaces, internal structure, and is bounded by selvages. Further, whereas points can be freely connected within a Euclidean plane, a textile plane preferences the perpendicular relationships between vertical warps and horizontal wefts, making diagonals and curves less common. Although Brezine's hypothesis is challenging to prove, it is soundly extrapolated from the Andean archaeological record, and suggests that assumptions about Inca geometry and spatial understandings based on Euro-American models may be incautious.

The issue of measurement also raises important questions about the ways Incas conceptualized scale. A number of chroniclers reported that the Incas developed units of measurement based on prototypes supplied by the human body—not unlike the American and British foot. The Incas' most common unit of length was a ricra, the distance from the fingertip of one outstretched arm to that of the other. Ricras were supposedly standardized through a rod called a cota kaspi, although archaeological examples have not been identified. At least one study has suggested that the ricra (or a distance of 1.6 m) may recur in architecture and agricultural terraces around Cuzco. Subsequent units further partitioned the arms: a sikya was from the center of the chest to the tip of an outstretched finger; a cuchuch was the elbow to the hand; a capa was the wrist to the fingertip; a yuku was the thumb to forefinger; and a rokana was the length of a finger. The utility of this system was that anyone handling an object had the tools to measure it at their fingertips—or almost anyone. Children would have been excluded, suggesting measurement was a socially stratified practice. A further limitation was that each unit could not be easily converted into the others, such as meters into centimeters. But perhaps most importantly, the smallest unit appears to have been some 7 or 8 cm long. It is therefore possible that many Inca reduced scale objects were smaller than their units of measurement leaving them unmeasurable. Thus, the metric measurements presented in this text, often with the precision of millimeters, dramatically misrepresent the ways Incas would have conceptualized the dimensions of these objects and are only meant to inform modern readers.

The Incas measured longer distances with units also derived from the body, such as the thatkiy or pace, which anthropologist John Rowe determined to be two steps. The thatkiy and the ricra may not have been significantly different in length, but remained distinct units because of the way the human body was employed to take the measurement. Six thousand thatkiys equaled a tupu, which were used to delineate "milestones" along Inca roads. The tupu also somehow measured area, but its size was inconstant. It amounted to the quantity of land needed to agriculturally support two people for one year. Understandably, this measure would have varied from one region to another depending on the fertility of the soil and the length of the growing season. Like the quipu knot tied to denote 1, the tupu emphasizes the importance of relationality in Inca thought. According to the chronicler Padre Bernabé Cobo, the Incas did not have a system for measuring liquid volumes. While they used a pan balance, or aysana, they do not seem to have had a standard system of weights.

The absence of units of volume and weight may make Inca measurements seem primitive; rather, they were highly culturally determined. Recent excavations of a government storehouse at the site of Incahuasi on the south coast of Peru have garnered attention due to the discovery of in situ quipus alongside foodstuffs like black beans, peanuts, and chili peppers. While this may lead to breakthroughs in quipu decipherment, what is perhaps more interesting for the present study is that the compound centered around large rooms with floors bearing grids of more than 3,000 squares, each measuring around 23 cm by 23 cm. Farmers seem to have brought their harvests to the compound and spread them across the grids so their areas could be measured. Although this may seem unusual, it makes a great deal of sense agriculturally: beans, peanuts, and peppers must all be dried in order to be stored. Even now, Andean communities spread out their harvests on the ground so that they can desiccate in the sun. This same process likely led Inca farmers to quantify such crops by area rather than by volume or mass, a precedent that the Inca state institutionalized. While systems of measurement in themselves might not have been a great theoretical focus for the Incas, conventionalized approaches to quantifying objects allowed for robust accounting practices that were central to Inca administration.

Issues of measurement and quantification also bring to the fore questions of currency, which Inca society and potentially many of their predecessors do not seem to have developed. This absence necessarily would have made exchanges of commodities a question of determining equivalencies. A scale bar, part of an aysana, from the north coast, conserved in the Berlin Ethnologisches Museum, makes stunningly clear how transactional measurements of equivalent weights could be. The bar is crowned with two figures, one of whom extends an upward-facing palm, while the other reaches out as if to

offer some object or payment possibly the very thing the scale was used to quantify. Unfortunately, the figure's extended arm is broken at the wrist, making it impossible to know what the hand held. Perhaps because scale balances were a common and important instrument in the ancient Andes, they could also be embodied as reduced-scale objects for ritual purposes. The Harvard Peabody Museum conserves a reduced-scale scale, where each pan holds a fixed quantity of pebbles. The pans are not attached to precise locations on the bar, making clear the device could never actually be used to measure weight. Quipus, numbers, mathematics, and systems of measurement all bore some relevance to the scaled relationships this work argues were prominent in Inca thought but they did not define them. Whereas European understandings of scale were contingent upon analogous bodies of knowledge, Incas engaged scale in more symbolic ways. As will be shown, Inca scaled relationships do not generally seem to have been predicated on precise measurements. Measurement may only have been practiced by certain members of Inca society in select contexts. Moreover, specialized means of measurement were developed for particular applications— such as quantifying sun-dried foods rather than a system that could be universally utilized for all objects. Scaled relationships permeated Inca life more widely. They enacted forms of signification and communication that were more immediate and accessible than quipus. Whereas quipus may only have been created and understood by trained officials, scaled relationships provided a means of nonliterate signification seemingly recognized across the empire. In sum, Inca scale was not a heightened version of the concept as it might have been recognized by European minds but rather bore different intellectual foundations and applications.

As a result, Andean concepts without clear European doppelgängers more fully contextualize Inca scaled thought. The concept of relationality has already been noted a number of times. Of similar importance was duality. Inca society was divided into two moieties, Hanan and Hurin, or "upper" and "lower." The division did not merely organize kin relationships but actually spatially divided the urban landscape of Cuzco into two parts. Other dualistic pairings included Inca conceptions of male

and female, the sun and moon, and gold and silver. Even certain objects like qeros, a form of toasting cup, were made in pairs. The birth of twins was especially noteworthy and even ominous. Fray Domingo de Santo Tomás, in the first lexicon of the Quechua language, completed in 1560, defined the word yanantin as "a pair, two equal things." Ludovico Bertonio, in the first dictionary of the Aymara language, completed in 1612, defined yanani as "two partnered things like two shoes, two gloves." Because Spaniards who compiled dictionaries could map these Inca concepts onto Spanish ones, they were identified and defined, and are now familiar to scholars. Inca concepts of scale were not so overtly recognized, and consequently have not been widely explored. Nonetheless, scale and duality share common ground. Scaled relationships are inherently dualistic as a result of the scaled object and its referent. Duality also poses interpretive challenges for scholars. First, there is a perpetual risk of overstating it. Duality can be read into anything that exists more than once and less than thrice. Second and more subtly, because the importance of duality has long been recognized, Inca objects and conceptual structures may have been identified as dualistic without further consideration of their dimensional traits. This leaves open the possibility that objects and practices suspected to be dualistic might actually be scaled relationships.

Additionally, Inca peoples had very different conceptions of objecthood both from their Spanish conquerors and our own. They believed in a force called camay, which anthropologist Frank Salomon has defined as "the energizing of extant matter" or "generative essence." Camay was neither visible nor tangible, but it materially infused substances with being. Objects animated by camay were called camascas. Crucially, in Euro-American terms, they could be "animate" organisms just as easily as "inanimate" rocks. A camasca could change shape or states and yet its camay would endure. A camayoc, which might be loosely translated as a "bringer into being," was perhaps the nearest term the Incas had for an artist. Quipu makers, for instance, were called quipucamayocs, just as professional weavers of cumbi cloth were called cumbicamayocs. Camay, however, could originate from another entity called a camac or vitalizer. In a number of clear examples, camacs seem to have

acted as referent objects. The identity of the referent object was conferred upon the scaled object through camay, making camay a critical mechanism in the ways Incas constructed, conveyed, and understood scaled relationships. What is important to understand about camay, however, is that because the concept was so foreign to chroniclers, they did not explicate the issue directly— similarly to scalebut rather only described its effects upon Inca beliefs. Our knowledge of the concept derives largely from the ways Quechua words were recorded in dictionaries and a rare Quechua language document written around 1600, referred to as the Huarochirí manuscript.

Finally, scale draws attention to an issue at the heart of Inca art historical studies: the question of representation. Scholars have regularly characterized Inca art as geometric and abstract. While the material cultures and built environments of Andean civilizations over preceding millennia professed a range of styles from tessellated representations of flora and fauna to naturalistic likenesses of people, Inca art often emphasized shapes, lines, and blocks of color, commonly including mimetic forms in only ancillary ways. Although this may appear to parallel trends toward abstraction in the twentieth-century Euro-American sense of the term, it is necessary to question the descriptive relevance of this adjective. "Geometric," similarly, references a specific Euro-American understanding of space and form whose relevance to the Inca intellectual tradition has already been questioned. These adjectives formally describe Inca objects to modern audiences more familiar with Euro-American art but may significantly mischaracterize them from an Andean perspective. Many Inca scaled objects manifest representational qualities. Often, this is the only reason their relation to a referent object can still be discerned. Other scaled objects do not bear strong mimetic resemblances—Why? Scaled relationships raise questions about the role of mimesis in Inca art, and the ways mimesis was indigenously conceptualized.

In a recent multidisciplinary study of the Incas edited by Izumi Shimada, art historian Thomas Cummins observed:

The study of Inca art and architecture is still in its infancy. There are studies of disparate media, concepts, forms, and objects, but an integrated investigation has not yet been undertaken. Hence we have recent studies of the khipu ... metallurgy ... architecture ... textiles ... stonework ... and ceramics ... , but these studies really have yet to speak to each other and to discuss how such forms and media were understood by the Inca in relation to each other. Rather, study has progressed following Western epistemological divisions and interests that are mainly academic and disciplinary.

Certainly, it is challenging, if not impossible, for a scholar working in the tradition of the European academy to fully step outside its fabric of ideas and terms. The very notion of art and of art historical study, it could and has been argued, is unavoidably European. Nonetheless, Cummins's call to action is well taken. This study begins with a term—scale—that appears never to have been widely associated with the Incas in colonial sources, and that has consequently not been extensively explored in subsequent scholarship. Through examinations of extant artifacts of diverse media and uses, in addition to a wide range of archaeological sites, as well as critical rereadings of colonial texts, the ensuing verbal and visual analyses argue that scale played a foundational role in Inca thought and expression. In so doing, scale disentangles, realigns, and recenters aspects of Inca culture that may have once seemed like unrelated chords and tangents.

Although only a few previous theoretical studies of art and scale have been undertaken, they have often been organized according to scale's spectrum, particularly with chapters devoted to the concepts of miniatures and "the monumental," given the expectation that each would-be type of object would share a particular cultural symbolism. This approach risks flattening scale's expressive capacity and oversimplifying diversiform ideas and beliefs in the interest of a linear argument. The goal of this study is not to provide singular conclusions of "what scale symbolized" for the Incas, but rather to argue that scale itself was a cognitive orientation and recurring mode of expression. My goal is to emphasize the breadth of contexts in which scale conveyed meaning, and its

diversity of audiences, while analyzing the work it performed as a conceptual tool. The chapters are therefore organized according to a different logic of scale: self-similarity. That is, at no matter what scale Inca society is considered, whether the life of an individual and the material culture he or she possessed, the collective experience of the inhabitants of a built environment, or the fundamental ideas that defined the worldview of Inca society, scale remained a prominent structure of Inca thought.

Scale is not only essential for understanding this sophisticated Andean civilization but is also a body of theoretical knowledge that Inca art and culture can offer scholarship at large. Without texts or treatises, few indigenous concepts of the ancient Americas have informed art history as a discipline. Inca scaled relationships offer a potential benchmark for future studies of scale in the material cultures and built environments of other cultures.

The Oxford Handbook of the Incas edited by Sonia Alconini & R. Alan Covey (Oxford Handbooks: Oxford University Press)

When Spaniards invaded their realm in 1532, the Incas ruled the largest empire of the pre-Columbian Americas. Just over a century earlier, military campaigns began to extend power across a broad swath of the Andean region, bringing local societies into new relationships with colonists and officials who represented the Inca state. With Cuzco as its capital, the Inca empire encompassed a multitude of peoples of diverse geographic origins and cultural traditions dwelling in the outlying provinces and frontier regions. Bringing together an international group of well-established scholars and emerging researchers, The Oxford Handbook of the Incas is dedicated to revealing the origins of this empire, as well as its evolution and aftermath.

Editors are Sonia Alconini, Associate Professor, Department of Anthropology, University of Texas at San Antonio and Alan Covey, Associate Professor, Department of Anthropology, University of Texas at Austin. The book has 48 contributors.

The scope of The Oxford Handbook of the Incas is comprehensive. It places the century of Inca imperial expansion within a broader historical and archaeological context, and then turns from Inca origins to the imperial political economy and institutions that facilitated expansion. Provincial and frontier case studies explore the negotiation and implementation of state policies and institutions, and their effects on the communities and individuals that made up the bulk of the population. Several chapters describe religious power in the Andes, and the special statuses that staffed the state religion, maintained records, served royal households, and produced craft goods to support state activities.

The Incas did not disappear in 1532, and The Oxford Handbook of the Incas continues into the Colonial and later periods, exploring not only the effects of the Spanish conquest on the lives of the indigenous populations, but also the cultural continuities and discontinuities. Moving into the present, the volume ends with an overview of the ways in which the image of the Inca and the pre-Columbian past is memorialized and reinterpreted by contemporary Andeans.

The Inca Empire was not only the largest state to develop in the pre-Columbian Americas; it was also a complex political organization that swiftly conquered most of the Andean region in roughly a century of campaigns. Without a standard writing system accessible to wider audiences, or currency that could facilitate administration of far-flung regions, the Inca Empire challenges longstanding preconceptions of statehood and forces scholars to develop new explanations and paradigms to understand non-Western and pre-capitalist empires. In recent years, significant advances have been made in revealing the complex nature of this pre-Columbian empire, thanks to research that cross-cuts traditional disciplinary boundaries. Moving beyond conventional perspectives that foreground the deeds of Inca rulers and repeat colonial Inca descriptions of the state institutions and policies that made up their empire, recent scholarship employs different approaches, lines of evidence and scales of analysis to contribute a more nuanced understanding of the actors and social groups that made up this singular polity. In addition, vigorous research conducted in the more distant provinces challenges claims made by Inca nobles in the imperial capital, revealing a suite of practices and strategies deployed by imperial agents and indigenous populations as they

negotiated their standing and power in the emerging social order. These studies have revealed not only how state policies and institutions were implemented, but also, perhaps more important, how they were actually adapted and negotiated, and what effects they had on the lives of the millions of Inca subjects and other Andean peoples.

Recognizing the value of emerging research to explain new facets of the Inca story, the editors designed The Oxford Handbook of the Incas to be a comprehensive volume dedicated to bringing together a broad array of new work that approaches the Incas from multi-disciplinary perspectives and at different geographic and temporal scales. Readers will find in this volume investigations that draw on archaeology, ethnohistory, art history, ethnography, history, architecture, and biochemistry to gain a deeper understanding of this empire and its people.

The scope of The Oxford Handbook of the Incas is broad. At a geographic level it presents new syntheses from the imperial heartland and adjacent provinces, as well as those in the more distant provinces and frontier regions. The themes are also varied – some controversial, and some just emerging in the scholarly literature. Whereas some chapters address the nature of Inca institutions, and how Andean principles of social organization helped the Incas to build a vast and complex empire, other contributions use bottom-up perspectives to assess how such institutions and practices were actually implemented and modified by competing actors. Complementing these approaches, there are also chapters that combine bioarchaeology and geochemical analysis. Applied to human remains, these analyses help to provide a detailed examination of the health, geographic origins, and hardships experienced by many ethnic groups. Applied to cultural materials like metal or ceramics, geochemical analyses contribute to better reconstructions of how goods, peoples, and ideas moved within the empire.

On a temporal scale, The Oxford Handbook of the Incas places the century of Inca imperial growth within a broader context. It starts with the predecessors of the Inca state, including those that influenced the eventual rise of this empire. This is followed by an examination of political economy and institutions that facilitated the growth of the

Inca realm, and the trajectories of outlying provinces, based on a set of case studies. Rather than end with the arrival of Spaniards in the Andes in 1532, The Oxford Handbook of the Incas contains chapters on the colonial and later periods, exploring not only the effects of the European invasions on the lives of the indigenous populations, but also the cultural continuities and discontinuities. Moving into the present, the volume ends will an overview of the Inca influence on the collective imaginary, and the ways in which the past is memorialized and reinterpreted by contemporary Andeans and others.

Because of the integrated nature of The Oxford Handbook of the Incas, this Handbook serves as an important contribution to Inca and Andean studies of the twenty-first century. It highlights major achievements of Inca scholarly work, while also setting the ground for future research. Each part ends with an additional concluding chapter written by the editors, where the editors highlight commonalities, discrepancies, and future research avenues.

The Oxford Handbook of the Incas makes an important contribution to Inca and Andean studies that utilizes a multidisciplinary, multiscale approach. The book is thoroughly researched and richly illustrated with more than forty articles and two hundred illustrations. Chapters break new ground using innovative multidisciplinary research from the areas of archaeology, ethnohistory and art history.

Retroactivity and Contemporary Art by Craig Staff [Bloomsbury Academic, 9781350009974]

Contemporary art is often preoccupied with time, or acts in which the past is recovered. Through specific case studies of artists who strategically work with historical moments, Retroactivity and Contemporary Art examines how art from the last two decades has sought to mobilize these particular histories, and to what effect, against the backdrop of Modernism.

Drawing on the art theory of Rosalind Krauss and the philosophies of Paul Ricouer, Gerhard Richter, and Pierre Nora, Craig Staff in Retroactivity and Contemporary Art interprets those works that foreground some aspect of retroactivity – whether re-enacting, commemorating, or re-imagining – as key artistic strategies.

In Retroactivity and Contemporary Art, Staff says there is an impulse within contemporary art concerned with both time and the potential recovery of the past or a particular moment therein. This aspect of a work, namely, its retroactivity, entails utilizing that which has previously occurred, happened or existed. As a consequence, retroactivity requires us to consider and reflect upon how that which inhabits the past tense can become reimagined within the present tense and material effects of what is a work of art. This fundamental question frames Retroactivity and Contemporary Art as a whole and as such, focuses upon those works that foreground some aspect of the past (or equally, what has passed), as a means to engender a particular set of meanings.

Within the context of Retroactivity and Contemporary Art, the analysis of retroactivity within contemporary art encompasses instances that are somehow organized around particular historical moments. So, for example, Raum/Room (1994) by Thomas Demand is based on the attempted assassination of Adolf Hitler in 1944. However, as the study evinces, history can never be unequivocal. Working outwards from this admission means that the representation of such moments is very rarely a straightforward process, nor are such representations wholly indubitable. In other words, and as Keith Jenkins has noted, history, as both a discipline and a methodology, is marked by epistemological fragility.

With Jenkins's assertion that 'historians can only recover fragments' in mind, the aim of the first chapter of Retroactivity and Contemporary Art is not to further rehearse the recent resurgence of contemporary art's interest in ruins per se, but rather to approach the task at hand by way of a basic admission, namely, that modernism is now perceived, for certain figures at least, as being in ruins. While on one level this acknowledges a more broadly held view that modernism has reached a state of decay, if not obsolescence, one might still legitimately ask where its residual effects might be located. To this end, and in light of Brian Dillon's own reflections on the subject, the focus of the chapter is 'the latent and so far unfulfilled life embodied in its ruins'. With this contention in mind, the work of Gerard Byrne is considered. It is to the

indexical status of the trace that the second chapter is oriented towards.

The main focus of the second chapter is that of considering how the index, conceived within this particular context as a trace, either seeks to negotiate with or in some cases fall beyond the ontology of the photographic image. While Rosalind Krauss had originally sought to account for the artwork's strategic deployment of the indexical sign-type in two articles published in October in 1977, it was arguably in The Optical Unconscious, first published in 1994, that she attempted to consider the index with regard to the temporalities it puts into effect and, furthermore, is necessarily contingent upon. Rather than simply rehearse Krauss's own reflections on the index and the broader set of questions raised by her argument, the chapter is oriented towards how the indexical sign-type as trace reinscribes some aspect of what has passed or previously occurred into the present tense. With this basic admission in mind, the work of Sophie Ristelhueber and Adam Broomberg and Oliver Chanarin is considered.

For Nora, writing elsewhere in 'Between Memory and History: Les lieux de memoire', while 'memory installs remembrance within the sacred; history, always prosaic, releases it again'. Although not necessarily concerned with what Nora in this context deems to be the 'sacred', the third chapter nevertheless seeks to examine how particular works of contemporary art are organized around a memorializing impulse. Rather than reflect upon memorials per se, the focus for this chapter is nevertheless works that, like memorials, can be seen to function as 'special precincts' wherein the 'reality of ends' becomes marked.

The fourth chapter of Retroactivity and Contemporary Art takes as its starting point the proclivity for artists to adopt re-enactment as a key artistic strategy. According to Ruth Erickson, the reason for such a 'historical turn' is twofold. First, it enables the artist the opportunity to 'rewrite history by offering a forum for other viewpoints traditionally kept outside the "grand narratives".' Second, re-enactment provides the critical means whereby 'the images and accounts that have composed these narratives can be deconstructed'.

Following Paul Ricouer, the final chapter examines those works that attempt to retrace the 'presence of an absent thing'. In the case of William Christenberry, as well as rephotographing a number of sites in Alabama where twenty-five years previously Walker Evans had sought to document the effects of the Great Depression, this retracing has also entailed photographing a building, again in Alabama, over a period of thirty-four years. In contrast, Chloe Dewe Mathews's project Shot at Dawn (2013) entailed the artist photographing twenty-three separate sites in Europe where approximately one hundred years ago soldiers were executed for desertion. In the case of both, the basic approach, namely, to examine 'place[sl where something happened', is the final chapter's overarching focus."

Retroactivity and Contemporary Art then is a critical examination of retroactivity as the means by which contemporary art engages with and reimagines aspects of the past, or to borrow Jenkins's apt description, 'the radical otherness of the "before now" '.

Moving seamlessly between philosophies of time and history, modernist aesthetics and art criticism, and semiotics, via close readings of a wide range of practices from the 19th century to the present day, the book will appeal to anyone with an interest in the temporality of artworks in their modern and contemporary guises. – Kamini Vellodi, Lecturer in Contemporary Art Theory and Practice, University of Edinburgh, UK

Retroactivity and Contemporary Art makes a significant contribution to a vibrantly expanding field of research currently inspiring artists, curators and theorists to engage with challenging and beguiling questions of time and `temporalities', history and histories. Here, a long list of artists, working in diverse media (including Toni Morrison, Jeremy Deller, Christian Boltanski, Gerhard Richter, Thomas Demand, Omer Fast, Walker Evans, Cornelia Parker, Robert Smithson and Steven Spielberg) are ably accommodated by Staff and welcomed to share an investigation into the strangely poignant potential of `retroactivity'. Maintaining a challenging tone of engaged critique, while at all times keeping his argument mobile and accessible, Craig Staff's generous approach cultivates new space for thought as a

broad readership is invited to enter this profound and compelling field of contemporary debate. This is a highly engaging and valuable resource for contemporary artists, curators, theorists, and students of both art and history. – Paul O'Kane, Lecturer in Critical Studies, Central St Martins, University of Arts, London, UK

Retroactivity and Contemporary Art is a striking philosophical reflection on time within art and art within time, and an indispensable read for those attempting to understand the artistic significance of history, materiality, and memory.

Fantastic Escapes: Architecture and Design for Stylish Stays by Maria Chatzistavrou and Chuck Peterson [Images Publishing, 9781864707656]

Based on the concept of guest houses intended for friends and family, the boutique hotels and B&Bs included in this lavishly illustrated book offer the opportunity to be part of the local culture and in tune with the beauty of the native environment. Along with Chuck Peterson and Luciana Breviglieri, Maria Chatzistavrou takes us along on a journey around the globe to sample the transformation of a broad variety of structures into unique invitations to get away from it all in luxury and novel experience. A great trip for lovers of architecture and design it is also a valuable guide for anyone hoping to explore new travel adventures.

- Boutique hotels and B&B are extremely attractive to tourists, and are becoming increasingly popular worldwide; this book features somewhere in the region of 200 boutique hotels and B&B projects from around the world
- Detailed descriptions and multi-angle pictures make this an excellent insight into international B&B style
- Boutique hotels and B&Bs have become exceptionally popular among tourists and travelers in recent decades. B&Bs originated in the United Kingdom, but have spread across Europe and beyond.

Fantastic Escapes: Architecture and Design for Stylish Stays features somewhere in the region of 200 boutique hotels and B&B projects from around the world, including Argentina, Canada, Chile, China, Europe, India, Iran, Japan, Mexico, Morocco, New Zealand, Puerto Rico, Scandinavia, South

Africa, South Korea, Sri Lanka, the United Kingdom, and the United States. Each example is illustrated with multi-angle pictures of guest rooms, restaurants, leisure areas and other spaces. Accompanied by detailed description to demonstrate how these institutions have evolved, this book is a valuable reference for hotel designers and B&B operators. <>

[The Cambridge Handbook of Consumer Privacy](#)
edited by Evan Selinger and Jules Polonetsky, Omer Tene [Cambridge University Press, 9781107181106]

Businesses are rushing to collect personal data to fuel surging demand. Data enthusiasts claim personal information that's obtained from the commercial internet, including mobile platforms, social networks, cloud computing, and connected devices, will unlock path-breaking innovation, including advanced data security. By contrast, regulators and activists contend that corporate data practices too often disempower consumers by creating privacy harms and related problems. As the Internet of Things matures and facial recognition, predictive analytics, big data, and wearable tracking grow in power, scale, and scope, a controversial ecosystem will exacerbate the acrimony over commercial data capture and analysis. The only productive way forward is to get a grip on the key problems right now and change the conversation. That's exactly what Jules Polonetsky, Omer Tene, and Evan Selinger do. They bring together diverse views from leading academics, business leaders, and policymakers to discuss the opportunities and challenges of the new data economy.

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PART I INTRODUCTION

Consumer Privacy and the Future of Society

In the course of a single day, hundreds of companies collect massive amounts of information from individuals. Sometimes they obtain meaningful consent. Often, they use less than transparent means. By surfing the web, using a cell phone and apps, entering a store that provides Wi-Fi, driving a car, passing cameras on public streets, wearing a fitness device, watching a show on a smart TV or ordering a product from a connected home device, people share a steady stream of information with layers upon layers of hardware devices, software applications, and service providers. Almost every human activity, whether it is attending school or a workplace, seeking healthcare or shopping in a mall, driving on a highway or watching TV in the living room, leaves behind data trails that build up incrementally to create a virtual record of our daily lives. How companies, governments, and experts should use this data is among the most pressing global public policy concerns.

Privacy issues, which are at the heart of many of the debates over data collection, analysis, and distribution, range extensively in both theory and practice. In some cases, conversations about privacy policy focus on marketing issues and the minutiae of a website's privacy notices or an app's settings. In other cases, the battle cry for privacy extends to diverse endeavors, such as the following: calls to impose accountability on the NSA's counterterrorism mission;' proposals for designing safe smart toys; plans for enabling individuals to scrub or modify digital records of their pasts; pleas to require database holders to inject noise into researchers' queries to protect against leaks that disclose an individuals' identity; plans to use crypto currencies or to prevent criminals and terrorists from abusing encryption tools; proposals for advancing medical research and improving public health without sacrificing patients' control over their data; and ideas for how scientists can make their data more publicly available to facilitate replication of studies without, at the same time, inadvertently subjecting entire populations to prejudicial treatment, including discrimination.

At a time when fake news influences political elections, new and contentious forms of machine-to-machine communications are emerging, algorithmic decision-making is calling more of the shots in civic, corporate, and private affairs, and ruinous data breaches and ransomware attacks endanger everything from financial stability to patient care in hospitals, "privacy" has become a potent shorthand. Privacy is a boundary, a limiting principle, and a litmus test for identifying and adjudicating the delicate balance between the tremendous benefits and dizzying assortment of risks that insight-filled data offers.

The Pervasiveness and Value of Tracking Technologies

In Chapter 2, "Data Brokers — Should They Be Reviled or Revered," Jennifer Barrett Glasgow defines the various types of data brokers as they exist today in the United States. She discusses where they get their data and how much of it is

aggregated from multiple sources. Glasgow also describes how data brokers deliver data to the marketplace and who buys data from a data broker. She covers how data brokers are regulated by law or self-regulation and how they interact with consumers. Finally, Glasgow outlines the risks that data brokers pose, and briefly poses some thoughts about their future.

In Chapter 3, "In Defense of Big Data Analytics," Mark MacCarthy argues that big data analytics, including machine learning and artificial intelligence, are natural outgrowths of recent developments in computer technology such as the availability of massive data sets, vast increases in computing power, and breakthroughs in analytical techniques. These techniques promise unprecedented benefits for consumers, workers, and society at large, but they also pose challenges for privacy and fairness. MacCarthy's chapter contains a short summary of the range of potential benefits made possible by these new analytic techniques and then discusses privacy and fairness challenges. Principles of privacy policy requiring data minimization and restricting secondary data use need to be reformulated to allow for both the successful delivery of big data benefits and effective privacy protection. Ubiquitous re-identification risks and information externalities reduce the ability of individuals to control the disclosure of information and suggest less reliance on notice and choice mechanisms. Big data analytics can pose fairness challenges, but these techniques are not exempt from existing antidiscrimination and consumer protection laws. Regulatory agencies and courts need to enforce these laws against any abuses accomplished through big data analysis. Disclosure of source code is not an effective way to respond to the challenges of designing and using unbiased algorithms. Instead, enterprises should develop and implement a framework for responsible use of data analytics that will provide for fairness by design and after-the-fact audits of algorithms in use. Such a framework will need to adopt standards of fairness and appropriate remedies for findings of disparate impact. This will require moving beyond technical matters to address sensitive normative issues where the interests of different groups collide and moral intuitions diverge. A collaborative effort of businesses, governments, academics, and civil rights

and public interest groups might sharpen the issues and allow sharing of information and best practices in a way that would benefit all.

In Chapter 4, "Education Technology and Student Privacy," Elana Zeide argues that new education technology (ed tech) creates new ways to manage, deliver, and measure education that generate a previously unimaginable array and detail of information about students' actions both within and outside classrooms. She claims that data-driven education tools have the potential to revolutionize the education system — and, in doing so, provide more access to better quality, lower-cost education and broader socioeconomic opportunity. The information generated by such tools also provides fodder for more informed teacher, school, and policy decision-making. At the same time, Zeide maintains, these data practices go against traditional expectations about student privacy. The education context requires a tailored approach to data protection. Few students can opt out of school information practices, making consent-based protections potentially problematic. Maturing data subjects, Zeide cautions, raises concerns about creating modern day "permanent records" with outdated information that unfairly foreclose opportunities. Many fear for-profit providers will prioritize generating revenue over students' educational interests. Traditional student privacy regulations aren't designed for an era of the tremendous volume, variety, and velocity of big data, because they rely on privacy self-management and institutional oversight. Many newer state laws restrict commercial educational technology services to using student data only for "school purposes," but don't cover the potential unintended consequences and nuanced ethical considerations surrounding educa¬tional use of data. As a result, Zeide concludes, the responsibility rests on entities generating, collecting, and using student data to adopt best practices to meet the specific expectations and considerations of education environments.

In Chapter 5, "Mobile Privacy Expectations: How Privacy Is Respected in Mobile Devices," Kirsten Martin and Katie Shilton describe privacy challenges raised by mobile devices, explore user privacy expectations for mobile devices, and discuss developer responses to privacy concerns.

Martin and Shilton argue that mobile technologies change social practices and introduce new surveillance concerns into consumers' everyday lives. Yet, consumers, regulators, and even the developers who build mobile applications struggle to define their expectations for the privacy of this data, and consumers and developers express different privacy expectations. The authors argue firms and regulators can help mitigate the gap between developers and consumers by making privacy by design part of corporate governance and establishing privacy as a first-order concern for protecting consumer trust.

In Chapter 6, "Face Recognition, Real-Time Identification, and Beyond," Yana Welinder and Aeryn Palmer provide an overview of face recognition technology and recent efforts to regulate its use. They first explain the process by which face recognition technology operates, including recent advancements in its capabilities through the use of neural networks. They then discuss various consumer applications of the technology, such as mobile apps and social network features that can identify people in photos. Next, they survey regulatory responses to face recognition technology across the globe, highlighting new developments and previewing possible trends to come in the United States, the European Union, Canada, China, and other jurisdictions. The discussion demonstrates the lack of regulation in some areas and reveals global uncertainty about how best to control face recognition technology under the law. The chapter concludes with recommendations to two types of stakeholders. First, it addresses policy-makers, encouraging them to balance support for innovation with protection of individual privacy rights. It stresses the importance of obtaining consent from all relevant parties, and of giving special consideration to government access to privately held face recognition data. Finally, Welinder and Palmer suggest that developers leverage User Experience Design as a notice tool, collect and retain a minimal amount of data, and keep the principles of security by design at the forefront of their minds.

In Chapter 7, "Smart Cities: Privacy, Transparency, Community," Kelsey Finch and Orner Tene argue that today's cities are pervaded by growing

networks of connected technologies to generate actionable, often real-time data about the city and its citizens. The more connected a city becomes, the more it will generate a steady stream of data from and about its citizens. As smart city technologies are being rapidly adopted around the globe, we must determine how communities can leverage the benefits of a data-rich society while minimizing threats to individuals' privacy and civil liberties. Just as there are many methods and metrics to assess a smart city's livability, or sustainability, or efficiency, so too there are different lenses through which cities can evaluate their privacy preparedness. This chapter lays out three such perspectives, considering a smart city's privacy responsibilities in the context of its roles as a data steward, data platform, and government authority. By considering the deployment of smart city technologies in these three lights, communities will be better prepared to reassure residents of smart cities that their rights will be respected and their data protected.

Ethical and Legal Reservations about Tracking Technologies

In Chapter 8, "Americans and Marketplace Privacy: Seven Annenberg National Surveys in Perspective," Joseph Turow sketches the growing surveillance and personalized targeting of Americans carried out by marketers as well as the public arguments used to defend these activities. At the core of their justifications is the notion that despite professed concerns over privacy, people are rationally willing to trade information for the relevant benefit that marketers provide. Drawing on seven nationally representative telephone surveys from 1999 through 2015, Turow presents findings that tend to refute marketers' justifications for increased personalized surveillance and targeting of individuals. Contrary to the claim that a majority of Americans consent to data collection because the commercial benefits are worth the costs, he also shows that the 2015 survey supports a different explanation: a large pool of Americans feel resigned to the inevitability of surveillance and the power of marketers to harvest data. When they give up information as they shop it merely appears they are interested in tradeoffs. The overall message of the surveys is that legislators, regulators, and courts ought to rethink the traditional regulatory understanding of harm in the

face of a developing American marketplace that ignores the majority of Americans' views and is making overarching tracking and surreptitious profiling an aspect of society taken for granted.

In Chapter 9, "The Federal Trade Commission's Inner Privacy Struggle," Chris Jay Hoofnagle's discusses the cultural and ideological conflicts on privacy internal to the FTC, and explains why the lawyers at the Commission are leading the privacy charge. This is because the Bureau of Economics is constitutionally skeptical of information privacy. Privacy skepticism reflects the economists' academic methods and ideological commitments. While information privacy is a deeply multidisciplinary field, the Bureau of Economics adheres to a disciplinarity that bounds its inquiry and causes it to follow a laissez faire literature. Commitments to "consumer welfare," concerns about innovation policy, lingering effects of Reagan-era leadership, the lack of a clearly-defined market for privacy, and the return of rule of reason analysis in antitrust also contribute to the Bureau of Economics' skepticism toward rights-based privacy regimes. Hoofnagle concludes with a roadmap for expanding the BE's disciplinary borders, for enriching its understanding of the market for privacy, and for a reinvigoration of the FTC's civil penalty factors as a lodestar for privacy remedies.

In Chapter 10, "Privacy and Human Behavior in the Information Age," Alessandro Acquisti, Laura Brandimarte, and George Lowenstein provide a review that summarizes and draws connections between diverse streams of empirical research on privacy behavior. They use three themes to connect insights from social and behavioral sciences: people's uncertainty about the consequences of privacy-related behaviors and their own preferences over those consequences; the context-dependence of people's concern, or lack thereof, about privacy; and the degree to which privacy concerns are malleable — manipulable by commercial and governmental interests. Organizing our discussion by these themes, the authors offer observations concerning the role of public policy in the protection of privacy in the information age.

In Chapter 11, "Privacy, Vulnerability, and Affordance," Ryan Calo argues that the relationship between privacy and vulnerability is complex. Privacy can be both a shield against

vulnerability and a sword in its service. What is needed to capture this nuanced interaction is a theoretical lens rooted in the physical and social environments as they exist, but also sensitive to the differing ways people perceive and experience that environment. Calo further contends that James Gibson's theory of affordance is an interesting candidate to capture this complexity, including in the context of consumer privacy. Affordance theory, Calo demonstrates, helps generate and unify some of consumer privacy's most important questions and will perhaps one day lead to better answers.

In Chapter 12, "Ethical Considerations When Companies Study — and Fail to Study — Their Customers," Michelle N. Meyer provides an overview of the different ways in which businesses increasingly study their customers, users, employees, and other stakeholders, and the different reasons why they do so. Meyer argues, however, that a complete ethical analysis of business research requires consideration not only of the purpose, nature, and effects of such research but also of a business's choice not to study the effects of its products, services, and practices on stakeholders. Depending on a variety of criteria she discusses, a particular business study — even one conducted without study-specific informed consent — can fall on a spectrum from unethical to ethically permissible to ethically laudable or even obligatory. Although business research is now ubiquitous — in many ways, happily so — the fact that individual, study-specific informed consent is usually infeasible in this context means that a careful consideration of a study's risks and expected benefits is called for. For reasons that Meyer explains, the content of federal regulations that govern risk-benefit analyses of most academic and some industry research — the so-called Common Rule — is not easily translated to the business setting. But she argues that companies should consider adopting something like the process used by institutional reviews boards (IRBs) to prospectively review and oversee research, and provides recommendations about how such company "research review boards" might operate.

In Chapter 13, "Algorithmic Discrimination vs. Privacy Law," Alvaro Bedoya addresses the intersection of two pressing debates: the desire to

eliminate bias in automated decision-making systems, and the recent industry-led push to enforce privacy protections at the point of data use, rather than the point of data collection. Bedoya highlights that most proposed solutions to the problem of algorithmic bias have tended to focus on post-collection remedies. Honing in on a specific technology, face recognition, Bedoya argues that correcting for algorithmic bias in this way will prove to be difficult, if not impossible. Instead, he says, the most effective means to counter algorithmic discrimination may come at the beginning of the data life cycle — at the point of collection. In making this argument, he emphasizes the importance of collection controls in any comprehensive privacy protection regime.

In Chapter 14, "Children, Privacy, and the New Online Realities," Stephen Balkam discusses the extraordinary challenges we all face in staying private in our hyperconnected lives. He emphasizes the difficulties parents, platforms, and policy makers face in keeping children's data private in an age of connected toys, devices, and always-on connectivity. Balkam looks at the history and evolution of the Children's Online Privacy Protection Act (COPPA) and addresses its benefits and shortcomings. He looks at how major social media platforms, such as Facebook, have responded to COPPA as well as some of the companies that have fallen foul of the law. In addition to considering the likes of Hello Barbie and Amazon's Echo, Balkam also considers the range of potential privacy issues brought by innovations in virtual, augmented, and mixed reality devices, apps and games. He concludes with a look at the future of children's privacy in an AI-infused, constantly monitored world. Balkam suggests that solutions will have to be found across the public, private, and non-profit sectors and then communicated clearly and consistently to parents and their digitally savvy children.

In Chapter 15, "Stakeholders and High Stakes: Divergent Standards for Do Not Track," Aleecia M. McDonald provides an in-depth look at the history of Do Not Track, informed by McDonald's personal experience as an original cochair of the World Wide Web Committee standards group. In the United States, the Do Not Call list is considered one of the big successes in consumer privacy. In contrast,

Do Not Track was dubbed "worse than a miserable failure" before it even got out of the standards committee trying to define it. At this time, Do Not Track is a soon-to-be published standard from the World Wide Web Committee (W3C), where standards emerge for web technologies such as HTML, which is the language of web pages. Meanwhile, the Electronic Frontier Foundation (EFF), an online rights group, has devised its own privacy-enhanced version of Do Not Track, with multiple companies pledging to use it. Several ad blockers will permit ads from companies that honor EFF's Do Not Track, providing a carrot and stick approach to user privacy and control. In yet a third approach, Do Not Track was suggested as a way to signal compliance with European Union privacy laws, both in a recent international Privacy Bridges project, as well as in publications by this author and leading European privacy scholars. The best thing about standards, as the saying goes, is that there are so many to choose from. Yet from a user's perspective, how can the multiplicity of Do Not Track approaches be anything but confusion?

In Chapter 16, "Applying Ethics When Using Data Beyond Individuals' Understanding," Martin E. Abrams and Lynn A. Goldstein contend that with the expanding use of observational data for advanced analytics, organizations are increasingly looking to move beyond technical compliance with the law to the ethical use of data. Organizations need to understand the fair processing risks and benefits they create for individuals, whether they are ethically appropriate, and how they might be demonstrated to others. Their chapter explores the evolution of data-driven research and analytics, discusses how ethics might be applied in an assessment process, and sets forth one process for assessing whether big data projects are appropriate.

International Perspectives

In Chapter 17, "Profiling and the Essence of the Right to Data Protection," Bilyana Petkova and Franziska Boehm begin by reviewing the legislative history of the provision on automated decision-making in the 1995 EU Data Protection Directive (the 1995 Directive), as it was amended in the process of adopting a new EU General Data Protection Regulation that would enter into force in 2018. Next, they discuss profiling in the context of

the case law of the Court of Justice of the European Union (CJEU) in the Google Spain, Digital Rights Ireland, and Schrems cases. Petkova and Boehm argue that the CJEU might be making a subtle move in its interpretation of the EU Charter of Fundamental Rights toward protecting against undesirable profiling measures instead of merely protecting against the identification of an individual. Finally, from the employment context, they discuss a few hypotheticals of algorithmic decision-making that illustrate how the relevant legislative framework might be applied.

In Chapter 18, "Privacy, Freedom of Expression, and the Right to be Forgotten in Europe," Stefan Kulk and Frederik Zuiderveen Borgesius discuss the relation between privacy and freedom of expression in Europe. In principle, the two rights have equal weight in Europe — which right prevails depends on the circumstances of a case. To illustrate the difficulties when balancing privacy and freedom of expression, Kulk and Borgesius discuss the Google Spain judgment of the Court of Justice of the European Union, sometimes called the "right to be forgotten" judgment. The court decided in Google Spain that, under certain conditions, people have the right to have search results for their name delisted. The authors discuss how Google and Data Protection Authorities deal with such delisting requests in practice. Delisting requests illustrate that balancing the interests of privacy and freedom of expression will always remain difficult.

In Chapter 19, "Understanding the Balancing Act Behind the Legitimate Interest of the Controller Ground: A Pragmatic Approach," Irene Kamara and Paul De Hert analyse the provision of the legitimate interest ground in the new EU data protection framework, the General Data Protection Regulation. The authors explain that the rationale of the legitimate interest ground is that under certain conditions, controllers' or third parties' interests might be justified to prevail over the interests, rights, and freedoms of the data subject. When and how the prevailing may take place under the GDPR provisions is not a one-dimensional assessment. De Hert and Kamara suggest a formalisation of the legitimate interest ground steps toward the decision of the controller on whether to base his or her processing on the legitimate interest ground. They argue that the legitimate interest

ground should not be seen in isolation, but through the lens of the data protection principles of Article 5 GDPR and Article 8 Charter Fundamental Rights EU. The authors further analyse the relevant case law of the Court of Justice EU, as well as the cases of Network and Information Security and Big Data and Profiling. Kamara and De Hert conclude that the legitimate interest of the controller is not a loophole in the data protection legislation, as has often been alleged, but an equivalent basis for lawful processing, which can distinguish controllers in bad faith from controllers processing data in good faith.

New Approaches to Improve the Status Quo

In Chapter 20, "The Intersection of Privacy and Consumer Protection," Julie Brill explores the intersection between privacy and consumer protection in the United States. She surveys the consumer protection laws that simultaneously address privacy harms, and also examines how the Federal Trade Commission's consumer protection mission has allowed the Commission to become a lead privacy regulator. Along the way, Brill delves into the challenges posed by data brokers, lead generators, and alternative credit scoring — as well as potential avenues for the United States to strengthen privacy protections.

In Chapter 21, "A Design Space for Effective Privacy Notices," Florian Schaub, Rebecca Balebako, Adam L. Durity, and Lorrie Faith Cranor argue that notifying users about a system's data practices is supposed to enable users to make informed privacy decisions. Yet, current notice and choice mechanisms, such as privacy policies, are often ineffective because they are neither usable nor useful, and are therefore ignored by users. Constrained interfaces on mobile devices, wearables, and smart home devices connected in an Internet of Things exacerbate the issue. Much research has studied the usability issues of privacy notices and many proposals for more usable privacy notices exist. Yet, there is little guidance for designers and developers on the design aspects that can impact the effectiveness of privacy notices. In this chapter, Schaub, Balebako, Durity, and Cranor make multiple contributions to remedy this issue. They survey the existing literature on privacy notices and identify challenges, requirements, and

best practices for privacy notice design. Further, they map out the design space for privacy notices by identifying relevant dimensions. This provides a taxonomy and consistent terminology of notice approaches to foster understanding and reasoning about notice options available in the context of specific systems. Our systemization of knowledge and the developed design space can help designers, developers, and researchers identify notice and choice requirements and develop a comprehensive notice concept for their system that addresses the needs of different audiences and considers the system's limitations and opportunities for providing notice.

In Chapter 22, "Enter the Professionals: Organizational Privacy in a Digital Age," J. Trevor Hughes and Cobun Keegan observe that contemporary privacy professionals apply legal, technological, and management knowledge to balance the important concerns of citizens and consumers with the interests of companies and governments worldwide. They further note that the field of information privacy has rapidly matured into an organized, interdisciplinary profes¬sion with international reach. Their chapter compares the burgeoning privacy profession with other modern professions, describing its history and similar growth curve while highlighting the unique characteristics of a profession that combines law, policy, technology, business, and ethics against a rapidly shifting technological landscape. As it has grown into a profession, Hughes and Keegan argue that privacy has developed a broad body of knowledge with multiple specialties, gained recognition as a vital component of organizational management, and become formally organized through professional associations and credentialing programs. Government recognition and enforcement actions have legitimized the role of privacy professionals even as these professionals work collectively to synthesize comprehensive and lasting ethical norms. In an era increasingly fueled and defined by data, significant changes in the shape of our economy and professional workforce are inevitable. By guiding the governance and dissemination of personal information, Hughes and Keegan argue that the privacy profession is well situated to grow and mature in these rapidly changing times.

In Chapter 23, "Privacy Statements: Purposes, Requirements, and Best Practices," Mike Hintze addresses common criticisms of privacy statements and argues that many criticisms misunderstand the most important purposes of privacy statements, while others can be addressed through careful and informed drafting. Hintze suggests that while drafting a privacy statement may be considered by some to be one of the most basic tasks of a privacy professional, doing it well is no simple matter. One must understand and reconcile a host of statutory and self-regulatory obligations. One must consider different audiences who may read the statement from different perspectives. One must balance pressures to make the statement simple and readable against pressures to make it comprehensive and detailed. A mistake can form the basis for an FTC deception claim. And individual pieces can be taken out of context and spun into public relations debacles. Hintze's chapter explores the art of crafting a privacy statement. It explains the multiple purposes of a privacy statement. It lists and discusses the many elements included in a privacy statement — some required by law and others based on an organization's objectives. Finally, it describes different approaches to drafting privacy statements and suggests best practices based on a more complete understanding of a privacy statement's purposes and audiences.

In Chapter 24, "Privacy Versus Research in Big Data," Jane R. Bambauer analyzes how traditional notions of privacy threaten the unprecedented opportunity to study humans in the Big Data era. After briefly describing the set of laws currently constraining research, the chapter identifies puzzles and potential flaws in three popular forms of privacy protection. First, data protection laws typically forbid companies from repurposing data that was collected for a different, unrelated use. Second, there is a growing appreciation that anonymized data can be reidentified, so regulators are increasingly skeptical about using anonymization to facilitate the sharing of research data. And third, research law generally prohibits researchers from performing secret interventions on human subjects. Together, these restrictions will interfere with a great amount of Big Data research potential, and society may not get much in return for the opportunity costs.

In Chapter 25, "A Marketplace for Privacy: Incentives for Privacy Engineering and Innovation," Courtney Bowman and John Grant inquire into what drives businesses to offer technologies and policies designed to protect consumer privacy. The authors argue that in capitalist systems, the primary levers would be market demand supplemented by government regulation where the market fails. But when it comes to privacy, consumers' demand can appear inconsistent with their expressed preferences, as they ignore high-profile data breaches and gleefully download trivial smartphone apps in exchange for mountains of their own personal data. Yet, even in places where government regulation is light (such as the United States), many companies increasingly appear to be pursuing high profile — and sometimes costly — positions, practices, and offerings in the name of protecting privacy. Ultimately, Bowman and Grant suggest that in order to understand the true market for privacy, beyond consumer-driven demand, it is necessary also to consider the ethos of the highly skilled engineers who build these technologies and their level of influence over the high-tech companies that have created the data economy.

In Chapter 26, "The Missing Role of Economics in FTC Privacy Policy," James Cooper and Joshua Wright note that the FTC has been in the privacy game for almost twenty years. In that time span, the digital economy has exploded. As a consequence, the importance to the economy of privacy regulation has grown as well. Unfortunately, Cooper and Wright insist, its sophistication has yet to keep pace with its stature. As they see it, privacy stands today where antitrust stood in the 197os. Antitrust's embrace then of economics helped transform it into a coherent body of law that — despite some quibbles at the margin — almost all agree has been a boon for consumers. Cooper and Wright thus argue that privacy at the FTC is ripe for a similar revolution. The chapter examines the history of FTC privacy enforcement and policy making, with special attention paid to the lack of economic analysis. It shows the unique ability of economic analysis to ferret out conduct that is likely to threaten consumer welfare, and provide a framework for FTC privacy analysis going forward. Specifically, Cooper and Wright argue that the FT C needs to be more precise in identifying privacy harms and to develop

an empirical footing for both its enforcement posture and such concepts as "privacy by design" and "data minimization." The sooner that the FTC begins to incorporate serious economic analysis and rigorous empirical evidence into its privacy policy, the authors maintain, the sooner consumers will begin to reap the rewards.

In Chapter 27, "Big Data by Design: Establishing Privacy Governance by Analytics," Dale Skivington, Lisa Zolidis, and Brian P. O'Connor argue that a significant challenge for corporate big data analytics programs is deciding how to build an effective structure for addressing privacy risks. They further contend that privacy protections, including thoughtful Privacy Impact Assessments, add essential value to the design of such programs in the modern marketplace where customers demand adequate protection of personal data. The chapter thus provides a practical approach to help corporations weigh risks and benefits for data analytics projects as they are developed to make the best choices for the products and services they offer.

In Chapter 28, "The Future of Self-Regulation is Co-Regulation," Ira Rubinstein contends that privacy self-regulation — and especially voluntary codes of conduct — suffers from an overall lack of transparency, weak or incomplete realization of the Fair Information Practice Principles, inadequate incentives to ensure wide-scale industry participation, and ineffective compliance and enforcement mechanisms. He argues that the US experiment with voluntary codes has gone on long enough and that it is time to try a new, more co-regulatory approach. In co-regulation, firms still enjoy considerable flexibility in shaping self-regulatory guidelines, but consumer advocacy groups have a seat at the table, and the government retains general oversight authority to approve and enforce statutory requirements. Rubenstein examines three recent co-regulatory efforts: (1) privacy management programs designed by multinational firms to demonstrate accountability under both European and US privacy laws; (2) the NTIA multistakeholder process, under which industry and privacy advocates have sought to develop voluntary but enforceable privacy codes without any explicit legal mandate; and (3) Dutch codes of conduct under national data

protection law, which allows industry sectors to draw up privacy codes specifying how statutory requirements apply to their specific sector. He concludes by identifying lessons learned and offering specific policy recommendations that might help shape any future consumer privacy legislation in the United States or abroad.

In Chapter 29, "Privacy Notices: Limitations, Challenges, and Opportunities," Mary J. Culnan and Paula J. Bruening contend that openness is the first principle of fair information practices. While in practice "notice" has been used to create openness, notices have been widely criticized as being too complex, legalistic, lengthy, and opaque. Culnan and Bruening argue that to achieve openness, data protection should move from a "notice" model to a model that requires organizations to create an environment of "transparency." They assert that while often used interchangeably, the terms "notice" and "transparency" are not synonymous. In their chapter, Culnan and Bruening review the history of notice in the United States, its traditional roles in data protection, the challenges and limitations of notice, the efforts to address them, and the lessons learned from these efforts. They examine the challenges emerging technologies pose for traditional notice and propose a move away from a reliance on notice to the creation of an environment of transparency that includes improved notices, attention to contextual norms, integrating notice design into system development, ongoing public education, and new technological solutions. Finally, Culnan and Bruening present arguments for business buy-in and regulatory guidance.

In Chapter 30, "It Takes Data to Protect Data," David A. Hoffman and Patricia A. Rimo note that we live in a world of constant data flow, and safeguarding data has never been more important. Be it medical records, financial information or simple online passwords, the amount of private data that needs to be protected continues to grow. Along with this growth in the need to secure data, Hoffman and Rimo insist, however, are the privacy concerns people have with their data. While some would pit security and privacy against each other, arguing that individuals must choose one over the other, the two actually can and should reinforce each other. It's this model that forms the basis of the chapter: Privacy and security should be pursued

hand-in-hand as we move toward an increasingly connected, digital world. To fully realize the benefits of information technology, big data, and Internet of Things, Hoffman and Rimo argue individuals must be confident that their devices are designed in a way that protects their data and that any data being collected and processed from those devices is used responsibly. Using internationally recognized mechanisms such as the Fair Information Privacy Principles, public and private organizations can enable both the innovative and ethical use of data. The key is not avoiding data but using it mindfully. It takes data to protect data.

In Chapter 31, "Are Benefit-Cost Analysis and Privacy Protection Efforts Incompatible?" Adam Thierer argues that benefit-cost analysis (BCA) helps inform the regulatory process by estimating the benefits and costs associated with proposed rules. At least in the United States, BCA has become a more widely accepted part of regulatory policy-making process and is formally required before many rules can take effect. The BCA process becomes far more contentious, however, when the variables or values being considered are highly subjective in character. This is clearly the case as it pertains to debates over online data collection and digital privacy. The nature and extent of privacy rights and privacy harms remain open to widely different conceptions and interpretations. This makes BCA more challenging, some would say impossible. In reality, however, this same problem exists in many different fields and does not prevent BCA from remaining an important part of the rule-making process. Even when some variables are highly subjective, others are more easily quantifiable. Thierer thus contends that policymakers should conduct BCA for any proposed rules related to data collection and privacy protection to better understand the trade-offs associated with those regulatory proposals.

In Chapter 32, "Privacy After the Agile Turn," Seda Curses and Joris van Hoboken explore how recent paradigmatic transformations in the production of everyday digital systems are changing the conditions for privacy governance. Both in popular media and in scholarly work, great attention is paid to the privacy concerns that surface once digital technologies reach consumers. As a result, the strategies proposed to mitigate these concerns,

be it through technical, social, regulatory or economic interventions, are concentrated at the interface of technology consumption. The authors propose to look beyond technology consumption, inviting readers to explore the ways in which consumer software is produced today. By better understanding recent shifts in software production, they argue, it is possible to get a better grasp of how and why software has come to be so data intensive and algorithmically driven, raising a plethora of privacy concerns. Specifically, the authors highlight three shifts: from waterfall to agile development methodologies; from shrink-wrap software to services; and, from software running on personal computers to functionality being carried out in the cloud. Their shorthand for the culmination of these shifts is the "agile turn." With the agile turn, the complexity, distribution, and infrastructure of software have changed. What are originally intended to be techniques to improve the production of software development, e.g., modularity and agility, also come to reconfigure the ways businesses in the sector are organized. In fact, the agile turn is so tectonic, it unravels the authors' original distinction: The production and consumption of software are collapsed. Services bind users into a long-term transaction with software companies, a relationship constantly monitored and improved through user analytics. Data flows, algorithms, and user profiling have become the bread and butter of software production, not only because of business models based on advertisements, but because of the centrality of these features to a successful disruptive software product. Understanding these shifts has great implications for any intervention that aims to address, and mitigate, consumer privacy concerns. <>

[Abel im Dialog](#) edited by Ulrich Dirks, Astrid Wagner 2 volumes (German Edition) [De Gruyter, 9783110454277] This work is mostly in German with some English.

This impressive 2 volume Festschrift in honor of the philosopher Günter Abel of Institute of Philosophy, Literature, Science and History of Technology, provides the honoree ample opportunity to address his correspondents to clarify the far-ranging scope of his attempt to unify science and the humanities with a comprehensive theory of Interpretation.

Abel's philosophy is grounded in the unifying theme of the linguistic character philosophizing, especially as its substance is founded in general theory of symbol as characterized as knowledge. Günter Abel's research casts a wide net to embrace the forms, practices and dynamics of knowledge and philosophy of mind and epistemology.

Abel studied philosophy, history, romance studies and political science at the University of Marburg and the University of Lausanne. After finishing his PhD thesis on stoicism, Abel habilitated in 1981 with a work on Friedrich Nietzsche.

Since 1987 he is professor for theoretical philosophy at the Technical University of Berlin. From 1999 to 2001 he was vice-president of the Technical University of Berlin, from 2002 to 2005 he was president of the German Society of Philosophy (DGPhil). Since 2008 he is board member of the International Federation of Philosophical Societies (FISP, Fédération Internationale des Sociétés de Philosophie).

Abel developed his "general philosophy of sign and interpretation"that holds that language, thinking, action and knowledge are fundamentally tied to the practice of interpretation and use of signs. All aspects of life, from perception to reflection to action, are characterized as interpretative and constructional as constituted by signs.

Reality thus depends on systems of description, symbols and interpretations. Consequently, Abel asserts that an uninterpreted reality turns out to be wrong. According to the constitutive role of interpretation he refers to "worlds of interpretation" (in reference to Nelson Goodman's "ways of worldmaking"). Based on this premise Abel advances a three-step model of relations of signs and interpretation, which he applies in different fields of philosophy and scientific speculation.

He has published extensively questions of epistemology, philosophy of mind, philosophy of knowledge and science ("knowledge research"), philosophy of language, theory of symbols, philosophy of perception, ethics, theory of creativity and philosophy of art.

Abel is a noted Nietzsche scholar who tries to combine elements of Nietzsche's philosophy with methods of contemporary analytic philosophy. He focusses mainly on Nietzsche's epistemology, which has had a strong influence on his own philosophy of interpretation.

Perceiving, speaking, thinking and acting are signs of written and interpretative processes. Their understanding is the aim of Günter Abel's general philosophy of drawing and interpretation. Insofar as signs are not merely understood as proxies-for-something and interpretations not merely as interpretations-of-something, the conditions of drawing and interpretation are in a fundamental position. With signs and interpretation as the basic words of contemporary philosophy, experience-organizing, reality-and meaning-shaping processes can be described. Thus, the study of the practice of drawing and interpretation makes our everyday as well as special world, foreign and self-relations understandable. On this basis, Abel has developed original positions in a broad spectrum of philosophical problem fields as well as at the interface to sciences, arts, architecture, technology, politics, law and the public. Their theories and arguments are discussed by prominent authors on the basis of their own research contributions. In a lively dialogue with Abel, critical challenges and further development of his approach come about. Contributions and replicas measure the perspectives of the philosophy of signs and interpretation as well as their interdisciplinary potential.

Wahrnehmen, Sprechen, Denken und Handeln sind zeichenverfasste und interpretative Vorgänge. Deren Verständnis ist Ziel der allgemeinen Zeichen- und Interpretationsphilosophie Günter Abels. Insofern hierbei Zeichen nicht bloß als Stellvertreter-für-etwas und Interpretationen nicht bloß als Deutungen-von-etwas begriffen werden, rücken die Zeichen- und Interpretationsverhältnisse in eine fundamentale Stellung. Mit Zeichen und Interpretation als Grundwörtern zeitgenössischer Philosophie lassen sich erfahrungsorganisierende, wirklichkeits- und sinnformierende Prozesse aufschlussreich beschreiben. So macht die Untersuchung der Zeichen- und Interpretationspraxis unsere alltäglichen wie auch besonderen Welt-, Fremd- und Selbstverhältnisse

verständlich. Auf dieser Basis hat Abel in einem breiten Spektrum philosophischer Problemfelder sowie an der Schnittstelle zu Wissenschaften, Künsten, Architektur, Technik, Politik, Recht und Öffentlichkeit originäre Positionen entwickelt. Deren Thesen und Argumente werden von prominenten Autorinnen und Autoren ausgehend von eigenen Forschungsbeiträgen erörtert. In einem lebendigen Dialog mit Abel kommt es so zu kritischen Herausforderungen und Weiterentwick-lungen seines Ansatzes. Beiträge und Repliken messen die Perspektiven der Zeichen- und Interpretationsphilosophie sowie deren interdisziplinäres Potenzial aus.

Perceiving, speaking, thinking and acting are signs of written and interpretative processes. Their understanding is the aim of Günter Abel's general philosophy of drawing and interpretation. Insofar as signs are not merely understood as proxies-for-something and interpretations not merely as interpretations-of-something, the conditions of drawing and interpretation are in a fundamental position. With signs and interpretation as the basic words of contemporary philosophy, experience-organizing, reality-and meaning-shaping processes can be described. Thus, the study of the practice of drawing and interpretation makes our everyday as well as special world, foreign and self-relations understandable. On this basis, Abel has developed original positions in a broad spectrum of philosophical problem fields as well as at the interface to sciences, arts, architecture, technology, politics, law and the public. Their theories and arguments are discussed by prominent authors on the basis of their own research contributions. In a lively dialogue with Abel, critical challenges and further development of his approach come about. Contributions and replicas measure the perspectives of the philosophy of signs and interpretation as well as their interdisciplinary potential.

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Hermeneutik und Interpretationsphilosophie

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Ulrich Dirks and Astrid Wagner: Perspectives of the Philosophy of signs and interpretation of Günter Abel

Perceiving, speaking, thinking and acting are signs of written and interpretative processes. Their understanding is the aim of Günter Abel's general philosophy of drawing and interpretation. Insofar as signs are not merely understood as proxies-for-something and interpretations not merely as interpretations-of-something, the conditions of drawing and interpretation are in a fundamental position. With, characters ' and ' interpretation ' are identified basic words of contemporary philosophizing. Experience-organizing, reality-and meaning-shaping processes can be described with you insightfully and clarified with regard to their logical prerequisites. Thus, an examination of the practice of drawing and interpretation can make our everyday as well as special world, foreign and self-relations understandable.

On this basis, Abel has developed original positions in a broad spectrum of philosophical problem fields as well as at the interface to sciences, arts, architecture, technology, politics, law and the public, whose theses and arguments and their Clarification force in relation to the conditions, methods and problem population of the aforementioned fields to discuss prominent authors in the present volume on the basis of their own research contributions. In a lively dialogue with Abel, critical challenges and further developments of his approach come about. Contributions and replicas measure the perspectives of the general philosophy of signs and interpretation as well as their inter-and transdisciplinary potential.

The project for initiating and documenting these dialogues in the form of a research-oriented discussion volume was quite large from the outset and therefore its realisation took a long time. For the sake of the scope of the project alone, the dialogue volume appears in two closely related sub-volumes. We are very happy that we have been able to win so many renowned, important representatives of different philosophical thinking and the above mentioned discipline fields for the dialogue project, and at this point we would like to thank all the participants Very much for your dedication and your patience. The texts are consistently original contributions, which were made

explicitly for this research project. Our special thanks go to Günter Abel for his unrestricted consent to this project and the extensive participation. For him, the work on the replicas has become a permanent challenge in recent years. The various contributions to which it was to be replicated represent a constructive reception of his work and at the same time a critical discussion of his approach from numerous and very diverse perspectives. As one can see from the originality of the replicas, Abel has been able to use this as a stimulus for his work in an outstanding way.

We would like to express the hope that not only the constructive confrontation with Abel's general philosophy of signs and interpretation will continue in the intensity achieved here, but that the present dialogue project is also fundamentally Deepening the discussion between philosophy on the one hand and the sciences and arts, technology and architecture, society, politics and the general public, as well as other fields of contemporary human work, on the other hand, and providing an exemplar.

Chapter 1: Interpretation, subject and self-confidence

Emil Angehrn: Interpretation between Design and understanding hermeneutics and philosophy of interpretation

This paper deals with the similarity and affinity as well as the difference between Interpretationism and Hermeneutics. Both theories take interpretation as the basis of human life, in all forms of individual and social, theoretical and practical behavior. However, Hermeneutics particularly emphasizes two points: the role of the subject in the formation of sense, and the receptive and responsive attitude in our dealing with sense. In comprehending and interpreting, sense is not only constructed, but given to us by the others and by the world.

Günter Abel: Subject reference beyond construction Reply to the contribution of Emil Angehrn Georg W. Bertram: Interpretation and self-confidence

The paper seeks to demonstrate that self-consciousness is a constitutive aspect of interpretation and that it is thus key for thinking about what interpretation is. The argument proceeds in three steps. First, a critical discussion of

Donald Davidson's thought experiment of radical interpretation is used to support the claim that interpretation qua translation is always bound up with language games that make differences between languages explicit, thus bringing these differences to the fore. Second, the argument demonstrates that the translational mode of making things explicit does not proceed through representation, but through performative transformation: Thus, it develops and changes the very practices that it makes explicit. Third, the argument expands on this claim by putting forward the thesis that explication understood in this way is essential for the human form of life in general, which is to say that making things explicit is an essential element of the realization of self-consciousness. Thus, interpretation is a constitutive element of the realization of self-consciousness and, in turn, interpretation itself has a constitutively self-conscious dimension.

Günter Abel: Self-confidence as Sign interpretive skill coupled self-relationship
Reply to the contribution of Georg W. Bertram
Chapter 2: Meaning and understanding

Andrzej Przylebski: allies in the same project?

Interpretationism from the viewpoint of hermeneutics

The article consists of two main parts; the third one is a kind of a summary. In the first one I try to determine a systematically done Hermeneutic Philosophy - I have developed since many years. In part two I analyze from this perspective Abel's philosophy of interpretation, pointing to its strengths and weaknesses. The philosophy of Günter Abel is in its decisive features very close to the Hermeneutic Philosophy based on Heidegger and Gadamer. It offers a finely elaborated form of what within the Hermeneutic Philosophy has still to be worked out. It is therefore a welcome partner in the up-to-date philosophical conversation. I see the greatest merit of this theory in elaborating different levels of understanding produced by human beings and in a careful description of them. This proves the universality of understanding (or of interpretation). The work of Günter Abel, seen from the hermeneutic perspective, shows however some problems which still need to be solved: For instance, the role of natural language in building a concrete cultural-historical world (verification of the linguistic

nature of understanding, claimed by Gadamer). Also the justification for the distinction between `Interpretation' and `Interpretation,' as well as the misleading speech on the multiplicity of the worlds have to be better argued for. One thing seems clear: Abel makes a great contribution to the success of the hermeneutic paradigm of philosophizing and thus to the hermeneutic turn of the contemporary philosophy - a turn, which can also be called interpretationist.

Günter Abel: Signs and Interpretativität of understanding
Reply to the contribution of Andrzej Przylebski
Marco Brusotti: "Defusing of the horizons" reflected equilibrium and understanding balance

The first section of the paper deals with the ontological presuppositions and the limits of the `fusion of horizons', a central concept in Gadamer's philosophical hermeneutics. Is it possible to substitute for Gadamer's `fusion of horizons' a form of equilibrium? First, a rational reconstruction shows how the concept of equilibrium is applied in logics and epistemology (Goodman), in ethics (Rawls) and finally in a theory of understanding (Elgin). Then, the paper tries to assess accomplishments and shortcomings of Abel's `equilibrium of understanding' (Verstehensgleichgewicht), showing that in this concept the metaphor of equilibrium must stand for a new content, since here it cannot stand for coherence and cannot be a criterion of understanding. Hence the equilibrium has another function. It is rather a synonym of understanding. The 'equilibrium of understanding' is a model of understanding, but only in the sense that it merely describes a typical case in which disruptions of understanding are resolved.

Günter Abel: Understanding balance and Horizon Defusion
Reply to the contribution of Marco Brusotti
Chapter 3: Language and Interpretation Practice

Tilman Borsche: , everything is language ' to distinguish ' names ' and ' things ' in the sign of the philosophy of interpretation

Discriminations concerning basic concepts determine our thinking in a much more fundamental way than convictions we advocate because we believe them to be more true or correct than their alternatives. They seem evident, while doubt about them seems

absurd and cannot be articulated in a reasonable way. One of these discriminations is the one between words and things, signs and designation, thinking and world. Underlying this discrimination is the question of the relation between names and things that introduced the European tradition of philosophy of language and that, in many ways, moved and dominated this tradition and repeatedly involved it in insoluble aporias. This presentation tries to show an alternative not by asking for the truth, but for the convenience of this discrimination. Following known but never dominant trends of philosophy of language, a reduction or suspension of that discrimination is explicated, which causes the things to represent themselves as verbally reshaped, and hence they can only be determined and made accessible within the framework of the tradition of linguistically articulated thinking. This way, it becomes possible to comprehend that discrimination not as a natural evidence preceding all judging, but as an abstraction that is admittedly highly useful however subsequent and artificial.

Günter Abel: Sign of the language, language of the sign
Reply to the contribution of Tilman Borsche
Pirmin Stekeler-Weithofer: from the signal to speech

Cooperation Logic Fundamentals conceptual understanding

The article shows why we better distinguish between `animal languages' as systems of signals used in some forms of coordination of animal behaviour on one side, real language with conceptual norms of proper differentiations and differentially conditioned inference rules as they are necessary for thinking and for symbolic actions embedded in human cooperative practices. As persons, we always (may, can or must) take part in such joint practices. Symbolic languages presuppose semantical rules that are not only formal, analytic, but express generic material knowledge, which we can label `synthetic a priori'. Rush Rhees criticism of the § 2 in Wittgenstein's PU amounts to saying that the `language of the builders' cannot be a `complete language' since it is only a system of signals. Without human language as codification of generic knowledge, there is no access to non-trivial non-present possibilities.

Moreover, when we refer in apperception, i. e. observation statements, to present experience, we always already evaluate possibilities and expectations; we do not just refer a posteriori to a set of given sensations or react on them automatically, as the ideology of empiricism holds.

Günter Abel: Language philosophy as a branch of the philosophy of signs and interpretations
Reply to the contribution of Pirmin Stekeler-Weithofer
Joseph Margolis: Some worries about Günter Abel's "interpretational Practice " [English]

I distinguish, rather loosely, between `constitutive' and 'ampliative' conceptions of interpretation, guided by the idea that there are no discernibly adequate, determinately objective or realist rules of interpretation by which to proceed; and I question Günter Abel's notion of `interpretational praxis' in the spirit of this alternative approach. I argue, more generally, that the realism question (in all its forms: in the sciences as well as interpretation) is not, intrinsically or primarily, an epistemological question but, rather, an existential question drawn in terms of post-Darwinian considerations, the resolution of which provides a basis for the validation of interpretive (and other cognitive) concerns. But that's to say, objectivity or realism is itself prefashioned by the conditions of diverse forms of Bildung. I take such a doctrine to conform with Wittgenstein's notion of Lebensform. Otherwise, the theory of interpretation tends to generate the familiar paradoxes of cognition itself.

Günter Abel: Objectives of the philosophy of drawing and interpretation
Reply to the article by Joseph Margolis
Chapter 4: Signs and physicality

Josef Simon: in other words signs, interpretation and Fürwahrhalten

The present paper reconstructs key positions concerning the epistemological role of the concepts of sign and interpretation along the history of Western philosophy. The treated approaches range from philosophers of Greek antiquity as Heraclitus, Plato and Aristotle over the modern positions of Descartes, Leibniz, Lambert, Humboldt, Kant and Hamann up to Nietzsche and Wittgenstein. Accentuating above all the interplay of both terms, Simon shows that his philosophy of

signs and Abel's philosophy of interpretation can be understood not only as complementary approaches ("two sides of the same coin"), but also as consequent developments within a philosophical tradition whose important positions and turning points are traced in this paper.

Günter Abel: Interpretation philosophy and philosophy of the sign
Reply to the contribution of Josef Simon
Jesús Conill: The poeticization of the signs from the Physicality

The first objective of this article is to point out that Günter Abel's philosophical stance constitutes an inspiring philosophy of signs and interpretation, based mainly on Nietzsche's thinking, to defend the radical thesis of the semiotical and hermeneutical nature of all human activities. Secondly, the article seeks to show that in order to better understand that semiotical and hermeneutical nature, Nietzsche's genealogy discovers that this semiotical and hermeneutical process originates in the body of the fantastic animal which is the human being, and in the poetising power of his imagination. This is no impediment to putting forward a new corporal conception of reason and a tropological conception of truth, and the reason for the importance of a philosophy of corporality: to transform contemporary philosophy by overcoming idealism, but also positivism and the current reductionist neurophilosophy.

Günter Abel: genealogies of physicality
Reply to the contribution of Jesús Conill
Chapter 5: neurobiological cognition and Temporality

Hinderk M. Emrich: on the question of "Semantom"

The great challenge to understand the genesis of "meaning" within the human brain, characterized by the question "how do semantics get into the human brain?", raised by Wolf Singer, Max Planck Institute for Brain Research, FFM, represents a fundamental question in neurobiology. In the present situation of research there is a gap between the neurophysiologically manifestable functional patterns and, on the other hand, the neuropsychological phenomena, which can be quantified using subjective scales. These are, in the present paper, realized within complex illusionary phenomena, which are important for quantifying

experiences and decisions and which - in this sense - describe so to say "meaning". Interestingly, these aspects of meaning can be very intensely be explored by using comparisons between measurements in normal probands and, on the other hand, patients with psychiatric disorders: for example in psychotic patients, patients under influence of cannabis and also after sleep deprivation. Under these conditions one is able to objectify the so called "semantic pressure"; and the crucial question in this regard is: might it by possible to quantify these differences in the sense of finding a semantic "particle", a "semantom".

Günter Abel: interfaces of drawing and Philosophy of Interpretation, psychology and psychiatry

Reply to the contribution of Hinderk m. Emrich

Denis Thouard: Tempo rubato

Time as consequentiality makes the most general condition of our world interpretations. But the use of time as a common convention is also a shared interpretation that determines the success of our interactions. Shared time is time within a praxis. It requests the agreement on one general convention (interpretation2). In this, variation can occur as well as regularity. In this frame, *tempo rubato* denotes the possibility of a personal accentuation of temporality, as it is tolerated in a musical execution. The inner articulation of the three temporal dimensions of rule, written text, performance, and individual variation brings more light to temporality than the classical opposition between physical and psychological time. The present meditation focuses on a neglected aspect of temporality. It is mostly an attempt of a philosophical heuristic, an essay, searching through language and music to grasp the very dimension of time that seems to resist our understanding. In the first part, I will focus on the rule of time: that it never can be overcome nor recovered. Nevertheless, there always remain some spots of time as if they were frozen to stone. How is such an experience thinkable and what does it say about time? In order to organize our thoughts on this matter we are then driven to sketch what I call the articulation of times.

Günter Abel: Time-order and experience reality
Reply to the contribution of Denis Thouard
Chapter 6: Forms of Knowledge

Catherine Z. Elgin: the Epistemic normativity of knowing-how

Knowing how to ride a bicycle, prove a theorem, tie a necktie, or play chess is, at least in part, an epistemic accomplishment. It is some sort of knowing. Abel (2012) argues that knowing how is irreducible to knowing that. No collection of knowings-that, however extensive, enables a person to play chess. I agree. He concludes that knowing how is therefore inscrutable. I argue that knowing how is akin to Aristotelian virtue — a matter of having a propensity to do the right thing at the right time for the right reason. The norm of the practice has been internalized, becoming second nature. I argue that rather than conforming to expressly stated rules, we model our behavior on exemplars — publicly available instances that manifest the features we seek to emulate. Since the exemplars are public, knowing-how is scrutable.

Abel's concerns in that paper are to distinguish knowing how from knowing that and to argue that knowing how must underlie knowing that. He acknowledges he does not discuss the difference between the epistemic norms of knowing ow and those of knowing that. Here I explore the epistemic norms of knowing how. I argue that although knowing how does not reduce to propositional knowledge, it is not inscrutable, for inquiring into the truth values of propositions is our only way of scrutinizing. My discussion concerns Abel's Knowing How exclusively. I cannot here attempt to do justice to the full theory of interpretation that he has developed over the course of his career.

Here I argued that the epistemic norms of knowing how are quasi-Aristotelian virtues; they are goods realized in action and may be uncharacterizable apart from the practices they belong to or the ends they promote. When this is so, it is impossible to state exactly what knowing how involves. But this does not make knowing how epistemically inaccessible, or learning how mysterious. A student can learn how to perform the action by modeling exemplary performances of it. Once his behavior accords with his exemplar, he knows how to do the action in question. Knowing how then is not inscrutable so long as we have the resources to identify and interpret exemplary instances.

Günter Abel: The practice-internal normativity of speaking, thinking and acting
Reply to the contribution of Catherine Z. Elgin
Hans J. Schneider: Can there be an unfathomable form of knowledge '?

Language analysis and modelling in philosophy

The paper takes Abel's discussion of Knowing How as an occasion to 'explore the relation between philosophical attempts to clarify concepts as 'means for detailed and consistent descriptions, and the scientific endeavor to build models and theories that are empirically refutable. For example, it urges to distinguish cases in which speaking of a `mental apparatus' and its 'compoents' is meant as an unproblematic metaphor (like in 'he made use of his extraordinary capacity to memorize texts for impressing his professor') from cases in which it is meant to refer to a hypothetical entity the workings of which are hidden from us. It suggests that with this distinction in place our Knowing How no longer appears to be enigmatic. So the paper on the one hand endorses Abel's tendon to cross borders between disciplines, but on the other it insists that for the sake of doing so in a perspicuous way, some quite radical suggestions but forward by the later Wittgenstein should be heeded.

Günter Abel: Knowledge forms and practical skills
Reply to the contribution of Hans Julius Schneider
Dagfinn Føllesdal: Günter Abel on knowing how and knowing that

As part of his big project on Forms of Knowledge Günter Abel has taken up the notion of knowing-how. He has discussed these issues in Abel and he is continuing this work as part of a forthcoming monograph. Ever since Ryle in his Presidential Address to the Aristotelian Society in 1945 (Ryle 1946) focused attention on the distinction between knowing-how and knowing-that there has been a lively discussion of this topic. While Ryle argued that knowing-that and knowing-how are two distinct kinds of knowledge, there have been attempts to refute Ryle by showing that all knowledge is knowingthat, or that all knowledge is knowing-how. Also, several intermediate positions have been proposed. Many of these go against intuitions that are broadly shared and have therefore received more attention than their arguments warrant.

Most often one focuses on just a few uses of knowing-how and thinks that these uses are representative of all uses. A main strength of Abel's contributions is that he avoids these facile generalizations by considering a very wide range of examples. Abel also draws a large number of distinctions in order to create some order in this immense multitude of various constructions. I shall not discuss his classifications here, but will consider only a few selected issues that seem to me to be of particular importance in connection with knowing-how.

Three main kinds of knowing-how constructions

First, it is often taken for granted that although there may be many differences between knowing-how constructions, they are all different from knowing-that constructions. However, this is far from obvious. "Tom knows how the planets move" seems to be very similar in kind to knows-that constructions like "Tom knows that the planets move in ellipses". In fact, the latter could be a way of making the first statement more precise. Thus, it seems that we can conclude that some uses of knowing-how are variants of knowing-that. So, the thesis that knowing-how and knowing-that form two separate classes seems false.

Abel is well aware of this, and he divides knows-how constructions into three main groups: First there is the kind I just mentioned, knowing-how something works (1). The other two kinds of knowing-how are the main reason why it is common to think of knowing-how as very different from knowing-that, and they are therefore those that traditionally have received most attention and led many to believe that all knowing-how constructions are radically different from knowing-that. These two kinds of knowing-how are: (2) knowing-how to do something and (3) knowing-how it is to be or to have something.

Almost all the discussion of knowing-how has concentrated on the second kind, and let us briefly consider this kind before we turn to the third kind of knowing-how, which I think throws light on issues that lie at the core of the discussion concerning knowing-how.

Kind 2 of knowing-how, knowing-how to do things, has been discussed in hundreds of articles and books. Much of this discussion turns on how one analyzes doing, that is acting and other activities. It has been argued, for example by David Carr in a couple of relatively early papers (1979, 1981), that knowing-how consists in following certain rules of the game. He gives knowing how to play football as an example. It requires conscious awareness of explicit representations of procedural knowledge: "[...] knowing how in the strong sense to play football is knowing the rules of the game [...]". However, Carr still insists that knowing-how is different from knowing-that: "[...] a statement of the rules of the game is not a theoretical statement but a description of a set of rules of practice, and mastery of the rules brings with it an understanding of an activity rather than a theory."

Carr's view has been criticized, especially by Charles Wallis in several articles. Wallis' criticism consists, like much other criticism in this field, in pointing to examples of knowing-how that do not fit into Carr's scheme. While "John knows how to bake a cake", like "John knows how to play football", may perhaps require John to know and follow a recipe that states "the rules of the game", other examples of knowing-how, like "John knows how to walk" or "Mary knows how to swim", do not seem to involve following a rule, and particularly not a rule one knows or is even conscious of.

Clearly, bodily activities and actions involve using the body and its various muscles in a specific way. However, it is rare that knowing-how requires a recipe that one follows for doing this. There may be some such cases. However, imitation and repeated practice and not detailed knowledge of muscle fibres and nerve firings is a very common characteristic of how one acquires know-how. In the discussion of know-how it is often mentioned how thinking about the way one uses individual muscles or about other details in the execution of an action disturbs the performance. Abel mentions the millipede syndrome: "Once the millipede is asked to demonstrate explicitly how it manages to keep all of its feet moving smoothly, it instantly gets tangled up. The ballerina who, in the midst of her refined motions, begins to reflect on how she manages to make these motions successfully instantly loses her grace. The threat of paralysis through analysis arises."

When one is training in order to acquire know-how, reflecting on the achievement may often be more common and more useful than reflecting on the process. A child learning to bicycle may notice that concentrating on not losing the balance helps more towards keeping the balance than thinking about how to move its various muscles, a high-jumper may find that concentrating on getting across the list instead of on the movements makes the results better. This may be of help in trying to sort out the kind of exercises that enhance the performance. But again, too much reflection often hampers the execution. Hubert Dreyfus began early to draw attention to the non-cognitive aspects of skill acquisition, and this work has been followed up by many of his students. See, for example, (Dreyfus 2007) and Sean Kelly's contribution to the volume in honor of Dreyfus (Kelly 2000) and many later contributions by Dreyfus, Kelly, Noë and others.

Clearly, knowing-how is a disposition, one knows how to play a piano even while one is not playing, but doing other things. What about a great pianist who loses the ability to play, for example because of arthritis? We would still say that he knows how to play the piano. However, we would not say that he has the ability to play the piano. This shows that we should not move too quickly between knowing-how to do something and having the ability to do it. Ability depends on more factors than just knowing-how.

All these issues have been discussed at length. The literature on knowing-how to do something is enormous and is growing fast. There is much repetition, and even a non-specialist can see that many journals do not use referees who are able to judge what is new and what is old. Even people who work in the same institution or nearby institutions do not always read one another.

A kind of knowing-how, knowing how it is to be or to have something, has recently begun to receive much attention, largely because of its connection with the philosophy of mind. In 1982 Frank Jackson proposed a thought experiment, "Mary's room" (1982, see also his 1986): Mary, who specializes in the neurophysiology of vision acquires, let us suppose, all the physical information there is to obtain about what goes on when we see ripe tomatoes and other red things. However, she has lived all her life in a black and white room from where she observes the world via a black and white television monitor. When she is let out of her room or is given a color television monitor and sees red for the first time, does she then learn anything? If so, there seems to be something more to know about the world than facts about physics, and this seems to be an argument against physicalism — this was the purpose of Jackson's thought experiment.

There is hence a close connection between our analysis if this third kind of knowing-how and our stand towards physicalism. If knowing-how it is to be or to have something, for example knowing-how it is to experience red, cannot be analyzed in terms of pure knowing-that statements, then physicalists will be hard pressed and will have some explanation to do if they are going to stick to their physicalism.

My Stanford colleague John Perry has given a brief and insightful analysis of knowing-how, which deserves to be better known. In *Knowledge, Possibility, and Consciousness* (2001) he presents an account of knowing-how as part of a general perspective on knowledge and consciousness. He argues that "[...] knowing what it is like to have an experience and knowing how to do something are both special cases of knowing-that. They are special in that they involve special kinds of representations, Humean ideas in the one case, executable schemas in the other."

The key idea in Perry's approach to knowing-how is that our analysis of knowing-that has much to learn from our study of knowing-how. In particular, knowing-how involves ways of perceiving and ways of actions, and has to be studied within a broad perspective on consciousness and the world that comprises both perception and action. Perry gives a careful analysis of knowing-how within this broader perspective and says about his analysis that it "exalts knowing how" (158). However, through Perry's treatment knowing-that becomes even more exalted. Perry does not try to force knowing-how into an impoverished notion of knowing-that, as has been usual in attempts to assimilate knowing-how to knowing-that. Instead, Perry develops a rich idea of knowing-how and shows that knowing-that shares this abundance.

One final remark: I think that the study of knowing-how, like much else in philosophy, has much to gain from empirical work in psychology, neurophysiology and brain science. Thus, for example, there is much evidence that learning and preserving knowing-how uses other mechanisms than learning and preserving knowing-that. An example is the studies that were carried out on H. M. (as he was known to the world) who after tragic experimental brain surgery became unable to form new memories. However, he preserved and was able to develop various kinds of knowing-how. This may indicate that knowing-how, or at least some kinds of knowing how, do not depend upon knowing that. In any case it shows that the relationship is not as straightforward as many philosophers tend to believe. This and many other scientific experiments and observations provide boundary conditions for philosophical work and also pointers to new ways of looking at philosophical issues.

Günter Abel: Knowing-how as irreducible knowledge form
Reply to the contribution of Dagfinn Frøllesdal
Chapter 7: epistemic Things and technical artifacts

Hans-Jörg Rheinberger: about epistemic things

The paper proceeds from a perspective on scientific objects — epistemic things — that is grounded in an approach to characterize the dynamics of the empirical sciences centered on experimental systems. Accordingly, the paper begins with a brief characterization of the concept of `experimental system' and its basic features. It includes an exposition of the notion of `epistemic thing' and its counterpart, the `technical object.' The second part of the paper concentrates on the relation between epistemic things and scientific concepts. They can be addressed, first, from the perspective of the problem of reference, and second, the problem of embodiment.

Günter Abel: epistemology epistemic objects
Reply to the contribution of Hans-Jörg Rheinberger
Hans Poser Ontology: Technical artifacts

Ontology is still an important area of metaphysics, but an ontology of technological artifacts is missing up to now. Technological artifacts are essentially connected with at least five processes: The process of its creation, development and realization, the process of use, and the process of depletion. In

their processes, these objects follow completely different laws or law-like regularities, namely causality; biological rules of growing and replication; formal syntactical rules and social rules. So we need a very rich ontology. Therefor that one of Nicolai Hartmann will be helpful, because it depends on categories and uses not only a bottom up structure from matter up to spirit, but also an essential top town transformation, namely finality, comparable with Popper's `downward causation'.
Günter Abel: Sign and interpretation philosophy of technology
Reply to the contribution of Hans Poser
Chapter 8: Science and Worldview

Ludger Honnefelder: Science as a process of interpretation the scientification of theology and the transformation of the concept of science in the 13th century

The article starts from Abel's thesis, that there is no type of knowledge which is independent from the applied system of interpretation and symbols. The thesis is questioned with regard to a historical constellation, i. e. the 13th century debate whether Christian theology can be understood as science (scientia). It is Albert the Great who uses the Aristotelian theory of science (episteme) as point of departure and shows that even knowledge based on faith can be understood as episteme if the Aristotelian framework is expanded. Thomas Aquinas applies the Aristotelian distinction between a sub- and a supraordinated science to theology. And John Duns Scotus uses the distinction between a science as such (scientia in se) and a science in us (scientia in nobis) as a differentiating tool and understands theology as a science of the second type. Scotus thus opens the Aristotelian system of sciences for the new type of a `Sinnwissenschaft'. This leads to the concluding question whether differentiations and changes in our understanding of (scientific) knowledge systems lead to Abel's above mentioned sceptic position or even presuppose — as does an internal realism — the assumption of an ideal science.

Günter Abel: plurality of knowledge forms and their Actual reality
Reply to the contribution of Ludger Honnefelder
Erwin Sedlmayr: World — Universe — Cosmos Demystification and Physikalisierung of the global image

The interpretative character of the human understanding of the world becomes especially apparent in world interpretations and their historical change. Mythical theological world conceptions characterized world pictures and pictures of the world, as well as explanations from philosophy of nature directed at the entirety of the world. Cosmology, which has become a part of modern astrophysics, provides an incomparable gain of knowledge. Modern cosmology is, in epistemological respect, characterized by the fact that its scientific-mathematical methodical presuppositions and limits themselves are included in the reflection. In particular, it contrasts, in its perspective of interpretation, a concept of world as a whole based on the entirety of all ontological entities with a sharpened and scientifically approachable concept of universe and cosmos. At the same time, astrophysical cosmological knowledge provides a philosophically significant component not to be ignored when it comes to the question of the status of man in a dynamically evolving universe that spawned humankind.

Günter Abel: Sign-interpretative philosophy of science
Reply to the contribution of Erwin Sedlmayr
Volume 2

Chapter 9: Law and law

Hans Jörg Sandluhler: the right and the limits of the "openness of interpretation"

The paradigm `interpretation' is of such universal application that — according to Günter Abel — the relations of world-reference, reference to others, and self-reference can be characterized as relations of interpretation. Precisely because one has to agree with this hypothesis, the question arises whether it reaches its limits when it comes to law. On the one hand, legal system and jurisdiction belong to the worlds formed by interpretation, in which authors and recipients of norms have convictions and possess knowledge that is viewed as justified. On the other hand, in a constitutional democracy there are bounds of interpretation: the constitution protects the essential area of fundamental rights justified by human rights due to the respect for human dignity, normalized in the basal legal proposition of article 1(1) of the constitution (Grundgesetz), from unlimited interpretation and assessment. Even though the

pluralism of interests and interpretations is connected with factual relativism, this does not result in a legitimization of a normative legal relativism. The principle of granting every person the freedom of his interpretation meets, when it comes to law, boundaries that must not be crossed.

Günter Abel: Sign and interpretation philosophy of law and human Rights
Reply to the contribution of Hans Jörg Sandluhler
Walter Grasnick: from Dealing with laws

The paper assumes a problem of interpretation. It criticizes its shortened traditional understanding in jurisprudence (Rechtswissenschaft) and jurisdiction. This shows, above all, that the point is not just about an interpretation of legal texts and their correct application to facts of the case. Rather, they must themselves be interpretatively established first. Therefore, Grasnick argues for a revision of the traditional hermeneutic understanding of the law and instead makes the case for a juristic argumentation in contexts of vagueness, indeterminacy, and uncertainty. "In the final analysis" it is a matter of the acceptance of judicial judgment and hence of the people's trust in their constitutional state. Abel's philosophy of interpretation is — in combination with other, particularly with constructivist and pragmatist approaches — very helpful here.

Günter Abel: Legal reasoning and the Interpretativität of the right
Reply to the contribution of Walter Grasnick
Chapter 10: Ethics, democracy and public

Luke K. Sosoe: explain or justify? On the relationship between interpretation ethics and democracy

The aim of my contribution is to present Günter Abel's account of the relation between the philosophy of interpretation, ethics of interpretation and democracy. We will address three main points. In the first part, G. Abel's ethics of interpretation will be defined, and a short parallel between democracy and ethics of intrpretation will be established and explained. Secondly, Abel's main thesis on the relation between the ethics of interpretation and democracy, i.e. the relevance of a theory of democracy based on and ethical theory derived from the philosophy of interpretation, will be discussed as well as the

contribution made to democracy by the ethics of interpretation. In this second part, we will try to understand the author's underlying intention. Finally, since the ethics of interpretation aims both to challenge and replace discourse ethics and to call into question dogmatism and relativism, be they ethical or political, the former's arguments will be carefully examined in order to see if Abel's intention can be fulfilled.

Günter Abel: the Life World as Foundation instance replica to the contribution of Lukas K. Sosoe

Ugo Peroen: force of genitive on a possible interpretation of public space

The article suggests a distinction between interpretation 1 (Interpretation) as a transcendental condition of understanding and interpretation 2 (Deutung) as a concrete modality of comprehension. The strength of interpretation 1 lies in its capacity to reveal a horizon into which specific propositions of interpretation 2 can sensibly be fit in. This horizon is a sort of preliminary transcendental condition that legitimates and regulates any interpretative act. To apply this vision to the political sphere leads to rethinking the category of public space, which appears as the ground on which it is possible to evaluate different policies and to distinguish between real political issues and mere administrative functions.

Günter Abel: a plea for a Adualistisches philosophical
Reply to the contribution of Ugo Peroe
Chapter 11: Pictures and sounds

Horst Bredekamp: Leibniz ' photograph of the Tentamen anagogicum for a material philosophy of the image

Gottfried Wilhelm Leibniz' Tentamen anagogicum from 1696 is an important text in the history of light theory. In its combination of manuscript pages, formulas and drawings it shows Leibniz manifold ways of thinking. The way in which his drawing hand enabled him to reflect became supressed in modern reproductions of his disegni. This case is an example of the unwillingness of large parts of philosophy to accept the autonomous reflexive activity of images. Günter Abel's philosophy of images instead is shown in its vicinity to Leibniz' abilities. Further steps to radicalize his approach are suggested.

Günter Abel: Sign and interpretation philosophy of the pictures

Reply To the contribution of Horst Bredekamp

Riccardo Dottori: How do you look at a work of art?

According to Günter Abel, a work of art is a complex of signs connected to each other that points to the world and that must be interpreted. When it comes to interpretation however, for one thing, we meet the problem of the difference between saying and showing: what relation does the logos of discursive language bear to the aesthetic logos of signs? For another thing, this leads us to Goodman's theory of languages of art in which he distinguishes autographic (fine arts) and allographic art (literature and music). Both are denotative systems, the former with unarticulated symbols in a dense schema, the latter with articulated symbols in a disjoint schema. This causes the difficulty of the interpretation of the pictorial and the infinity of interpretation. The same problem occurs in classical hermeneutics, namely the connection between the immanent understanding and the explicating understanding of the work. Thirdly, we interpret our concept of art, which is neither a cognitive process, nor an increase of our will to live, but a statement on the meaning of our life and a process of self-interpretation of the mind in social life.

Günter Abel: Aesthetic signs and interpretations
Reply to the contribution of Riccardo Dottori
Helga de la Motte: autonomic art — musical expression — musical gesture —

The category of the musical expression has been undergone changes in the course of the history. In the 18th century the imitating rhetorical functions of the music for the support of words meaning were abandoned within the scope of the concept of Art for Art's sake. Music should no longer have a useful function outside itself. More and more it was conceived as a language of the Ineffable; it became a form of a sounding Metaphysic. Art for Art's Sake was a fundamental basic for this idea. Nevertheless, it hasn't to be given up in the 20th century, when the aesthetics changed once more. However, the concept of expression was replaced by that of gestures. Several meanings of gesture arouse by which the most important was that art

implies a pointer for its ontological status. But the latter is veiled. Art is there without revealing what it is. In contemporary aesthetics the non-limited experience of art is not simply conceived in the sense of an occurrence (Ereignis) "that" it is (the Quod) but related to the question "what" it is (the Quid).

Günter Abel: character and interpretation philosophical music aesthetics
Reply to contribution By Helga de la Motte
Chapter 12: Architecture

Fritz Neumeyer: Figures in the basic architectural traces of reading, inspired by Günter Abel's interpretation Worlds

Built form produces figures of spatial enclosure written into the ground. As a sign language architecture provides a script of space. Seen as a figure, each ground plan is a sign speaking about communal forms of living and the politics of sharing space. Architectural theory needs to provide a theory of interpretation of spatial recognition with respect to techniques of spatial denotation on the level of figure and ground. It established the fundamental distinction between interior and exterior together with architecture's capacity to allude to individual perception and collective motivation. The language of architectural form requires recognizable signs with reference to the public character of their use; at this point the symbolic logic of architectural form corresponds with its geometrical and collective nature.

Günter Abel: Sign and interpretation philosophy of the architecture
Reply to the contribution of Fritz Neumeyer
Uta Hassler: Design teachings and, grammar architectural form ' knowledge collections of architecture from Vitruvius to the Handbook of Architecture

Günter Abel's Philosophy of Signs and Interpretation contains, just like the "knowledge research" Abel developed, a number of possible connections to architecture, more precisely to the history of architecture and its bodies of knowledge, and to the theory of architecture. The history of architecture can be conceived as a history of signs and interpretation. And the theory of architecture is obviously concerned with different forms of knowledge and their interactions and dynamics.

Philosophy of signs and interpretation is declaredly not a semiotics. Hence, in terms of architecture, it must not be confused with the topos "semiotic system architecture", as it was used since the 1960ies. Abel's approach avoids those theory constrictions that started since the change around 1900 for the developments of the theory of architecture and the entire discipline of architecture and that have been characteristic from the second half of the 20th century until today.

Günter Abel: Architectural History as a history of signs and interpretations
Reply of Uta Hassler's contribution
Chapter 13: Orientation and perspectivity

Werner Stegmaier: orientation means knowledge according to Nietzsche, Luhmann and Abel

Günter Abel has recently demonstrated the actuality of Nietzsche's philosophy of science. Nietzsche viewed knowledge, everyday knowledge as well as scientific knowledge, not as much in terms of `reference', its connection to a an 'external world', but rather in terms of the conditions of its communicability. Niklas Luhman, whose sociological system theory includes philosophy, did this in the most resolute way. That makes it interesting to illuminate the actuality of Nietzsche's philosophy of science. Nietzsche's, Luhmann's, and Abel's concepts of knowledge can however be merged in the perspective of the philosophy of orientation. Knowledge then seems as a means of orientation. To it belongs, above all, knowing how, which Abel, compared to Nietzsche and Luhmann, particularly addressed.

Günter Abel: Orientation as a challenge of philosophy
Reply to the contribution of Werner Stegmaier
Martina Plümacher: the Perspectivization of reality

What conception of perspectivity is the Philosophy of Signs and Interpretation based on? How exactly are interpretativity, creativity, and perspectivity intertwined? Based on a short report on the development of the idea of perspectivity in thinking and knowing, the paper explains different concepts of perspectivity in order to answer both questions. In the conclusion, two points are emphasized: (a) The Philosophy of Signs and Interpretation contextually refers to different concepts of perspectivity. (b) In order to constructively and

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creatively design their own lifeworlds, people are well advised to use their liberty of Changing perspectives, signs, and interpretations by taking into consideration the practical relevance and range of perspectives.

Günter Abel: Perspectivism in the philosophy of drawing and interpreting
Reply to the contribution of Martina Plümacher
Chapter 14: Plurality and creativity

Logi Gunnarsson: why there is only one world

Firstly, I argue that Abel and John McDowell share basic assumptions about experience and the way in which we directly experience the world. Secondly, I point out a central difference: Abel thinks that the interpretive nature of experience implies that — given the plurality of interpretations at the fundamental level — our experiences cannot be of one world. McDowell believes that our experiences must be of one world. Thirdly, I argue that McDowell's criticism of coherentism is applicable to Abel's conception of experience: If interpretatively different experiences correlate with different worlds, then experiences are not rationally constrained by the world and are "a frictionless spinning in a void." Fourthly, I argue that, though pluralism needs to be taken more seriously than McDowell does, the issue of pluralism can only arise against the background of the assumption of one world. I thereby offer a belated response to Abel's reply to my criticism in a 1996 journal symposium.

Günter Abel: The unity of the world and the Variety of realities
Reply to the contribution of Gunnarsson
Chung-ying Cheng: onto-generative Hermeneutics of Creativity: Interpretation of Indeterminancy from creative experience to Abel to Yijing

This article deals with issues of experience, meaning and truthfulness of creativity. I shall consider creativity in light of Quine's ideas of indeterminacy and Abel's account of radical creativity. Specifically, I develop a notion of `onto-generative cosmology' and a theory of human mind as vehicle of `creative creativity'. I refer to the philosophy of the Yijing as providing a beginning and a theoretical framework of a fundamental philosophy of creativity. Finally, I accentuate the importance of mind as embodying a free function

of creative determination in a Hilbert space of open possibilities.

Günter Abel: Sign-interpretative process philosophy
Reply to the post by Chung-Ying Cheng
Chapter 15: Skepticism and naturalism

Tim Koehne: skepticism and Interpretationism

The epistemological, philosophy-theoretic and justificational relation between skepticism and interpretationism as expounded by Günter Abel is explored. His interpretationism is understood as being validated by its capacity to refute skeptical arguments with their unpalatable, i. e. nihilistic, relativistic, irrationalistic, anarchic or simply self-contradictory conclusions. It is shown that the conditions of the skeptical arguments propounded by Sextus Empiricus, Agrippa, Hume, Descartes and — a modern specimen — Wright are not satisfied in interpretationism. Furthermore, in line with its internalistic and transitory self-conception, three direct skeptical attacks are dismissed and new ones are encouraged. On a practical side, Abel's argument for a democratic form of government by showing its coherence with interpretationism and by discounting its alternatives via skeptical arguments is considered.

Günter Abel: limits of skepticism
reply to the contribution of Tim Koehne
Rogério Lopes: naturalism and Interpretationism

This article aims to investigate the extent to which Abel's insertion in the debate on skepticism and naturalism in the Anglophone philosophical tradition, especially in the historical Strawson-Stroud debate on the success of transcendental arguments in response to the skeptical challenge, allows the creation of a conceptual schemes which refuses both the conventionalist and the naturalist position in regard to our conceptual schemas, while at the same time seeking to differentiate itself from the apriorism of the Kantian tradition. Although I acknowledge that interpretationism offers a new solution to the issues involved in this debate, I argue that this solution is unable to deliver everything it promises. This new conceptual space is not determined enough to pacify skepticism. I conclude by suggesting that the attempt to reconcile Nietzsche and Wittgenstein introduces instability in Abel's interpretation. The reformist impulse of

Nietzsche's philosophy rests on the results of a preliminary naturalistic stage (genealogical inquiry) which neither Wittgenstein nor Abel seem willing to incorporate into their philosophies.

Günter Abel: skepticism in non-reductionist naturalism
Reply to the contribution of Rogério Lopes
Chapter 16: Dialectic and pragmatism

Elena Fanny: Dialectic and Philosophy of interpretation

The paper proposes a dialectical reading of Abel's Zeichen- und Interpretationsphilosophie, and more specifically of Abel's theory of the forms of knowledge (Wissensformen) as developed in the third part of Zeichen der Wirk lichkeit. After a short consideration of Hegel's definitions of "dialectics" in the Enzyklopädie der philosophischen Wissenschaften im Grundriß, I examine Abel's theory of the forms of knowledge, showing its closeness to Hegel's dialectical account of thought. Some paradigmatic insights are typical for both thinkers: the view of forms as generative principles rather than empty containers; the necessary link between `Wissensformen' and natural language; the dynamic interplay between knowing (Wissen) and not-knowing (Nicht-Wissen); the dynamic nature of `Wissensformen'; the conception of a positive form of scepticism, which is an essential part of every form of philosophical knowledge (Wissen). In the last part, I examine those ideas that place Abel's philosophy within contemporary neo-pragmatistic appropriations of Hegel. In my view, the strength of Abel's position consists, in this respect, in its metaphilosophical awareness.

Günter Abel: Dialectic as a process of drawing and interpreting
Reply to the contribution of Elena Fanny
Robert Schwartz: pragmatism, inquiry, and knowledge

Pragmatic instrumentalism is best understood as a naturalistic account of scientific inquiry, not an ontological thesis meant to draw a line between elephants and electrons. Theories as wholes, not merely their more rarified, abstract, or non-observational parts are tools. Pragmatic instrumentalism runs loll the way down as well as all the way up. The motivating theme of this paper is to show the advantages adopting such an

instrumentalist stance has over standard accounts of inquiry that focus on the pursuit and acquisition of propositional knowledge. I will not here attempt to challenge directly the core notions of belief, truth, and justification that underlie this latter model. Rather will argue for the superiority of the pragmatic approach in handling several longstanding epistemological puzzles. Each of these puzzles is concerned with sues relating to our understanding of probabilistic justification. I must warn, though, that I am not going to offer solutions to these problems as they are usually conceived and in the specific contexts in which they are traditionally discussed. Instead, I wish to show why from a pragmatic instrumentalist perspective the puzzles pose no difficulties that cannot be dealt with or profitably dodged. I hope that consideration of such advantages may help loosen the grip the traditional account of inquiry has in epistemology.

Günter Abel: Pragmatism in the philosophy of drawing and interpretation
Reply to the article by Robert Schwartz
Chapter 17: Interpretation of interpretation

Hans Lenk: philosophy of interpretation and interpretationism as "first philosophy"?

Methodological Interpretationism (since 1978 or later scheme-interpretationism) and interpretation philosophy are parallel, if not really the same basic approaches. Minor differences are mostly terminological ones — as discussed in 1988. These are taken up here again — as also questions of higher (meta-)levels of interpretation, indirect realism and in general a `methodological turn' in interpretation philosophy of both provenances.

Günter Abel: The relationship of the philosophy of signs and interpretation to methodological interpretationism
Reply to the contribution of Hans Lenk
Luis Eduardo Gama Barbosa: the challenge of ontology in Interpretationalism

This article reviews Günter Abel's interpretationalistic philosophy based on two blind spots in his argument. What we are dealing with are two onetological problems, which concern the being-in-itself of interpretant human existence. We first look at the statute of Abel's analysis which, without necessarily corresponding to the levels of

interpretations identified by him, takes place as a realization of the interpretation revealed to itself as the articulating force of all reality. Secondly, we inquire into the human ability to observe the contingent of the constitutive axes of life, which Abel highlights not realizing that it is this that opens the doors to the possibility of the existence of an ontology of human finiteness. For this mobilization of interpretationalism towards ontology, we base ourselves on the doctrines of Nietzsche (genealogy and will to power) in which a reflection on interpretation acquires an ontological nature.

Günter Abel: Philosophize without Ontological Foundation
Reply to the contribution of Luis Eduardo Gama Barbosa
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[Homer and the Good Ruler in Antiquity and Beyond](#) edited by Jacqueline Klooster and Baukje Van Den Berg [Mnemosyne, Supplements, Brill Academic, 9789004365810]

[Homer and the Good Ruler in Antiquity and Beyond](#) focuses on the important question of how and why later authors employ the Homeric epics to reflect on various types and aspects of leadership.

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Homer and the Good Ruler in Antiquity and Beyond: Introduction by Jacqueline Klooster and Baukje van den Berg

This book is the result of an international conference held at Ghent University in May 2015. It sets out to study the reception of Homer in the context of reflections on the good ruler in antiquity and beyond: how and why did later authors employ Homeric epic to reflect on various types and aspects of leadership? This also includes the reception of Homeric epic as Princes' Mirror.' In this introduction, we address some preliminary points in order to shed light on the scope and importance of the topic. The first question to be addressed is what exactly is a Princes' Mirror and, next, whether the Homeric epics qualify as such or have been read as such (and if so, why). In a broader sense, this entails the question of how the reception of the epics functioned in various generically diverse ancient discussions of leadership. The last section considers the position of this book in the field of Homeric reception studies and announces its approach to the topic.

Aim and Scope of the Book

The pervasiveness and importance of the topic make it all the more remarkable that, to date, no scholarly attempts have been made to produce a sustained inquiry into the development of the reception of Homer's good ruler and the Homeric epics as Princes' Mirror in ancient Greek and Latin literature, let alone beyond. Some studies address specific aspects of the theme: the Iliad is discussed as a poem about 'politics' in a number of works. The reception of Homeric epic as Princes' Mirror forms the theme of various monographs on specific texts, both in ancient and modern reception studies. Such analyses of, for example, Philodemus' On the Good King According to Homer and Dio Chrysostom's Kingship Orations, however, typically treat the theme solely in relation to their specific topic and text, not in the context of an overall and comparative treatment. Plato's reaction to Homer's influence on Greek education is a subject of its own Bizer's 2011 study, Homer and the Politics of Authority in Renaissance France, again, only looks at the political reception and appropriation of Homer in Renaissance France. What is lacking, however, is a fuller treatment of this pervasive and important theme throughout European culture.

A number of reasons for this absence can be identified. In the first place, despite many historical, sociological, and cultural approaches, modern scholarship has long tended to focus on Homeric poetry as 'literature'; it has often approached Homeric epic mainly through a study of stylistic, structural or thematic issues, rather than focusing on the cultural or societal roles its reception may have played in the ancient world. Although general awareness that Homer was read as a compendium of values has certainly never been absent, the modern tendency has nevertheless been to consider the epics as 'literary products' rather than didactic texts. As Eric Havelock phrased it of Homeric epic. The source text is reinterpreted, reshaped, and received under influence of what Jauss, building on Gadamer's thought, designates as 'the horizon of expectations' of any given period. In other words, the reception of Homer is influenced by both the historical, social, and cultural context of the receiver and the generic and rhetorical constraints of the receiving text. For the didactic reception of Homer specifically, this means that the receivers tend to read their own programme into the Homeric epics, a programme that reflects the needs and

preconceptions of their own period and genre. More concretely, this means that an ancient scholiast is likely to read into Homeric epic a different concept of the good ruler than Eustathios in twelfth-century Byzantium; Philodemus in the Imperial Period may use Homeric epic to propagate different qualities of the good ruler than Christophoros Kondoleon in sixteenth-century Italy. Similarly, we may expect to find a different reading of Homer in Plato's philosophical works, Polybius' Histories, or Plutarch's anecdotal Table Talk, depending on differences not so much of historical period but of genre. This volume, then, aims to explore a multiplicity of 'receptions' of Homer's Good Ruler over a large span of time and in diverging genres. In doing so, it hopes to shed light on the reception of Homer as political and educational text, which was appropriated according to the needs of a specific period, on the one hand, and to explore these needs and ideas of good rulership in specific periods, on the other hand.

To illustrate this multiplicity and diversity, the current collection of essays studies generically different texts which each incorporate readings of Homeric epic in order to reflect on rulership and forms of governance. It offers readings of Homeric epic as a Princes' Mirror in the works of certain authors within their own historical context, in order to provide, in the end, a diachronic overview of how Homeric epic functioned as such throughout antiquity and beyond, in Byzantium, the Early Modern Period, and the twentieth century. It thus aims to trace both change and continuity in the reception of Homer and in conceptions of good rule throughout the ages.

In order to trace the diachronic development, the papers in this collection are arranged chronologically, starting with Homer himself. As mentioned above, Irene de Jong opens the volume by exploring the 'birth of the Princes' Mirror' in Homeric poetry by discussing discrete examples of advice to young or prospective rulers in the Iliad and Odyssey. Next, Will Desmond highlights one aspect, viz. the piety of the Homeric ruler, who is godlike on the one hand and a representative of his people before the gods on the other. Desmond focuses on the important figures of Odysseus and Achilles in particular, tracing moreover the

reception of the latter's piety as a model for Aeneas, Alexander, and Julian. The third paper, by Jacqueline Klooster, explores Phoenix' definition of the good ruler as a doer of deeds and a speaker of words (Il 9.443), that is to say, as possessing both excellence in counsel and physical courage. The paper discusses both its implications within the Iliad and its reception in antiquity, addressing topics and texts to be further explored in other papers along the way. As such, these three papers shed light on Homer's conception of the good ruler in both a synchronic and diachronic perspective, in Homer and in Homeric reception, and thus provide a useful basis for the readings of individual authors to follow.

These readings, ironically one may say, start with Plato, Homer's most passionate opponent. Patrick Lake analyses the Homeric quotations in Book 3 of the Republic and argues that Plato in fact uses his interpretation of these passages to support his idea of good rule and obedience, thus making poetry an ally of, rather than an adversary to philosophy. Elsa Bouchard explores the largely positive reception of Agamemnon—a problematic ruler in modern eyes—in the Homeric scholia and zētēmata tradition. Maria Gerolemou focuses on Odysseus, demonstrating how Polybius uses this figure in his Histories as an example of his idea of a good ruler who has gained geographical knowledge and useful experience through his wanderings.

The next papers explore various generically diverse texts from the Imperial Age, from its beginnings to its later ages, from the Greek as well as the Roman world. Jeffrey Fish identifies the qualities of the good ruler that Philodemus reads in the Homeric epics, providing a fuller picture than ever before thanks to newly edited fragments. Casper de Jonge studies a Greek scholar in Rome and argues that Dionysius of Halicarnassus' ideas on good rule—exemplified to some extent by Homer's swineherd Eumaeus—were part of the same intellectual and socio-cultural world as Augustus' ideas on good rule—exemplified to some extent by Virgil's Arcadian king Evander. David Driscoll delves into Plutarch's Table Talk and specifically the anecdotes told by middle-class symposiasts in which the Homeric epics are quoted to rulers, in order to shed light on the socio-cultural role of paideia and of knowledge of Homer in the

Imperial Age. Elina Pyy takes us to Flavian Rome and analyses the reception of Homer's ideal of heroism and rulership in the heroic code as set out by Silius Italicus in his Punica, showing that this is no longer appropriate to the situation in the Roman Empire after the civil wars. <>

Cynical Suspicions and Platonist Pretentions: A Critique of Contemporary Political Theory by John McGuire [Social and Critical Theory, Brill Academic, 9789004364912]

In Cynical Suspicions and Platonist Pretentions, John McGuire conducts a critical analysis of contemporary political theory with a view to facilitating a less reductive understanding of political disaffection.

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Excerpt:

Causarum Cognitio

We notice him almost immediately; the languid, incongruous figure sprawled along the bottom steps. Although the very architecture of The School of Athens radiates around the arrival of Plato and Aristotle, the true point of dramatic tension occurs centre-right, where we see two men hurrying to intercede: one apparently trying to prevent the approaching metaphysicians from stumbling over the idler in their path; the other, petitioning his colleague, perhaps proposing they drag him out of the way. After all, who invited Diogenes the Cynic to their gathering anyway?

Few would credit Raphael with having any appreciable insight into ancient philosophy. His painting evinces a decidedly middlebrow celebration of Great Minds, sprinkled about with vague iconography: a globe, a stylus, some decorative armature, and, of course, Plato's upturned finger counterpoised against Aristotle's down-spread palm—the great metaphysical debate epigrammatically reduced to "knowledge of causes comes from up there" versus "No, it comes from down here." Or something along those lines. That Plato clutches his Timaeus while Aristotle brandishes his Ethics suggests their conversation to be very confused indeed. As for the rest, the identity of many attendees can only be guessed at. Is it Heraclitus who 'weeps' and Democritus who 'laughs'? Is that supposed to be Alexander or Alcibiades in uniform? Do we presume Averroes features here in his moustachioed, Orientalist finest? Only the figures of Socrates and Diogenes of Sinope are recognisable from classical representations—but whereas Socrates discretely conducts his elenchus off to one side, Diogenes insists on making a nuisance of himself.

It seems remarkable that a philosopher, whom many still consider unworthy of the title, would enjoy such prominence in a painting commissioned nearly two thousand years after he died. It is no less remarkable that the cynical disaffection Diogenes represents is considered as much a threat to democratic life today as it did to our Periclean predecessors. To cite two recent examples, amidst the deluge of critical diagnoses following the United Kingdom's referendum on Brexit, the charge of 'cynicism' (particularly against Leave campaigners) was a regular motif. In the view of some commentators, the referendum was a malignant outgrowth of a struggle over the Tory leadership, with the least scrupulous of the contenders channeling xenophobic resentment and populist hostility against Europe to advance their own political cynicism has now even been elevated to a cognitive pathology and precursor of dementia. Although we can only speculate as to whether Raphael had any pedagogical purpose in mind in arranging his figures, the implacable disaffection Diogenes embodies continues to be a source of considerable anxiety within contemporary political analysis.

Many theorists and commentators echo the conclusions of Jeffrey Goldfarb and Wilber Caldwell in depicting cynicism as a corrosive force that has steadily worsened since the advent of post-industrial, secular modernity. In a similar vein, Patrick Deneen suggests modern democracies are caught in a vicious cycle of utopianism and cynical disillusionment, which he believes can only be broken by expelling both extremes in favour of a more realistic approach to reform? Others, like William Chaloupka and Timothy Bewes, claim that the radical nonconformity of the ancient Cynics has metastasised into strains of manipulative statecraft, ironic posturing, and conspiracy mongering—all of which have served to hasten the spread of debilitating disillusionments In all cases, cynicism is deemed to be wholly incompatible with democratic life, inasmuch as it generates an image of representative institutions hopelessly compromised by special interests, and evinces a profound loss of faith in the capacity for collective action to work towards the public good.

Considering these bleak forecasts, it is worth keeping a few caveats in mind: first of all, Cynicism clearly antedates modernity (as well as most extant models of statehood). We must therefore be cautious about making direct linkages between relatively recent socioeconomic and cultural developments, and outbreaks of disenchantment. Nor can we assume that manifestations of cynical disaffection indicate all-encompassing psychological/cultural/existential dispositions (as though our distrust of political elites automatically infects all other professional and familial domains). Furthermore, we should query the implicit assumption that unchecked expressions of cynical distrust beget more cynics, because it is this unproven linkage that leads many to conclude that a politics of disaffection must be self-defeating because it logically excludes the possibility of progressive social change.

New research on Cynicism briefly blossomed in the early 1980s, with Michel Foucault's lecture series on Cynical and Platonic 'truth telling,' and the publication of Peter Sloterdijk's Critique of Cynical Reason. Sloterdijk was concerned with distinguishing the radical shamelessness of the ancients from the disillusioned complicity of 'modern' cynics. That said, Sloterdijk's attempted recovery of Cynicism's 'lost

cheekiness' [verlorene Frechheit] seems more concerned with litigating the cultural achievements of the 196os than with plotting a viable course for Cynicism as a new mode of philosophical analysis or political practice. By contrast, Foucault's reconstruction of ancient ethical doctrines is increasingly seen as an important contribution to our understanding of the different ways philosophical critique connects with the exercise of political power. More recently, work by Sharon Stanley and Louisa Shea has raised important questions about Cynicism's supposed incompatibility with democratic sociality, and revealed the complexities of ancient Cynicism's reception by later Enlightenment thinkers (particularly among the French philosophes). Their conclusions are supported by the work of a small but determined group of classicists and historians (including Heinrich Niehues-Pröbsting, A.A. Long, R. Bracht Branham, David Mazella, William Desmond, and Luis Navia), who have illuminated ancient Cynicism's distinctive moral-political outlook: as a modus dicendi for coping with misfortune; as a repertoire of subversive rhetorical techniques that 'moralise the gap' between ideals and practices; as localised 'tactics' of resistance which serve to ennoble the protests of otherwise disempowered actors. And finally, in her recent ethnography of Palestinians in the Occupied West Bank, Lori Allen provocatively frames interactions between the local population and human rights organisations as a manifestation of a distinctly 'cynical' sensibility ("simultaneously an expression of disappointment, frustration, and hope"), which enables moral-political agency in the absence of other, more conventional structures of governance.

My ultimate aim is to draw together these diverse strands of historical, cultural, and political analysis in order to develop a comprehensive social theory of cynicism and political disaffection. But before any such project can get underway, we must first unburden ourselves of the received image of the Cynic as a misanthrope entombed by their disenchantment. The aim of the present work is to interrogate the commonplace assumption that cynical disaffection is inherently pathological and represents an obstacle to 'real' conceptual and moral progress. In pursuing this challenge I will also be questioning an important correlate of anti-cynicism: specifically, that the social role of political

philosophy should be to address 'fundamental' questions about collective life, including the clarification of normative foundations and the proffering of constructive solutions to ethical conflicts. Both in the guise of the ancient ascetic and the postmodern ironist, cynicism's jaundiced view of moral and epistemic authority undermines the traditional self-understanding of philosophy embodied by the figures of Plato and Aristotle. To assess the alleged risk cynicism poses to democratic life, it is therefore necessary to clarify its distrust of 'expertise.' Cynical disaffection is often misleadingly equated with populism (as though all expressions of anti-elitism are reducible to anti-intellectualist resentment). What is missing from this picture is the story of cynicism's fractious relationship with philosophical idealism, and its gradual historical and conceptual estrangement from cosmopolitanism—despite both originating in the philosophy of that same peculiar figure, Diogenes of Sinope.

> [147-8] It is not an inappropriate thing, when making choices that cause you to hesitate, to summon men who are learned, or experienced also, and to discover what they would approve in the case of each sort of duty. For the majority tend to be carried along to where they are led by nature herself. [...] We need give no advice about things done in accordance with custom and civic codes of behaviour, as they themselves constitute pieces of advice. No one should be led into the error of thinking that because Socrates or Aristippus did or said something contrary to custom and civic practice, that is something he may do himself. For those men acquired such freedom on account of great, indeed divine, goodness. But the reasoning of the Cynics must be entirely rejected; for it is hostile to a sense of shame, and without that nothing can be upright, and nothing honourable.

In both passages, it is notable how the cynic's assault on convention is equated with a complete withdrawal from society. In Cicero's reading Diogenes' lack of decorum skirts perilously close to the bestial regression—`nature' is no substitute for the carefully curated achievements of civilisation. In contrast with the acidic negativism of cynics and populists, true moral and political exemplars prove to be divinely inspired because their transgressions

never break the bonds of basic civility. Only by preserving a baseline of civic conduct can there be any hope of a constructive renewal of community. Cicero's endorsement of the civilising effects of shame [verecundia] lives on in the 'burdens of judgment' solemnly proffered by today's Rawlsians, who claim that the success of social cooperation depends on the willingness of citizens to remain 'reasonable' in suspending deeper disagreements over moral values and 'ultimate' truths for the sake of maintaining a relatively stable political culture. While 'reasonableness' may appear at first to be a less loaded term than `shame; as we will see it hardly proves more effective in screening out potentially 'false' or arbitrary constraints on acceptable political behaviour.

(b) Faith in philosophical intervention: Regardless of whether we align ourselves with the precepts of moral universalism, what we find expressed in cosmopolitanism's ancient and esteemed pedigree is an aspiration shared by many subsequent brands of political theory: the belief that clarified insight can shape social reality for the better. Thus, David Held, Thomas Pogge, and Ulrich Beck have, each in their own way, lobbied for the constitutionalisation of international law and the establishment of permanent supranational institutions, which they consider the only reliable defence against immanent environmental, epidemiological, or nuclear catastrophe Others, like Martha Nussbaum, have promoted a universal-humanist ethos in the hopes of rescuing 'patriotism' from its association with an oftentimes murderously parochial nationalism. Still others have sought to forge sympathetic linkages with a nascent cosmopolitanism bubbling up from below, which is typically construed as populist anger militating against the mercilessly exploitative character of global capitalism. However wide the gap between theory and practice may actually be, there is still a detectable paternalistic intent underlying the 'rational hope' that specialised knowledges can be used to cultivate ordinary understandings.

As we will see, one of the defining attributes of cynicism's critical ethos is its banalization of philosophy, by which I mean its refusal to take the consciousness-raising efforts of moralists and idealists at face value—as though their

prescriptions could ever represent disinterested claims. For the cynic, philosophy never fully transcends its own self-interest. While one can certainly moralise against the evils of the world, the very act of moralising carries with it an implicit bid to be taken seriously, to be socially esteemed (as a perceptive observer of practical affairs, as a person with great moral acuity, as someone whose judgments are guided by careful logic, as a creative thinker). Although it is a common refrain that Cynicism was not a philosophy but a mere ethos, what is often overlooked is the deliberate way in which Diogenes rejected all forms of art, science, and philosophy that did not serve the purposes of ethical self-understanding and social cooperation. The Cynic's maxim to live out the consequences of one's thinking (and thereby eliminate the gap between prescription and practice), entails a decidedly anti-philosophical gesture of stripping moral thought of anything deemed purely 'doctrinal' (and therefore inessential to living `virtuously'):

> [6.103] They choose to dispense with logic and physics ... to concentrate entirely on ethics ... Antisthenes used to say accordingly that those who have not yet acquired proper self-mastery should not study literature, so as not to become distracted by extraneous interests. They reject geometry too, and music, and all such studies. Diogenes thus remarked, when someone showed him a clock, that it was "a useful device to save one from being late for dinner.

It is important that we do not mistakenly assume Diogenes' cynicism amounts to militant pragmatism or utilitarianism—what he was concerned with, above all else, was enabling relentless and uncompromising critical reflection, and this meant testing the 'worth' of all established norms, social practices, status hierarchies, and subjective intentions. Thus, the cynic does not dismiss the creative or inspirational intent of idealism as 'worthless,' but seeks to probe the extent to which these intentions are also self-aggrandising or delusional. This is not anti-intellectual posturing, but a sharply phrased scepticism aimed at theorists who too often content themselves with empty platitudes and speculative fantasies. Diogenes is a committed pedagogue, and attunes himself to the different `uses' the same principles can have for

different audiences ([6.68] "He said that education is 'a source of self-control for the young, a consolation for the old, a treasure for the poor, and an adornment for the rich'."). To assume that the object of theory should be freestanding, perfected in isolation from the noise of contingency, is for Diogenes a kind of moral dereliction.

By this point, it may still seem absurd to claim that there is any substantive critical perspective to be found in the antinomian anti-politics of a figure spurned by contemporary political philosophers and moral theorists, and indeed all who ride atop the spuming crest of global justice theory's 'third wave.' Nevertheless, despite the fragmentary and apocryphal nature of Diogenes' variegated sayings and 'seno-comic' [spoudogeloin] anecdotes, a more charitable reading of his exploits reveals a genuine philosophic endeavour that counters conventional dismissals of Cynicism as a kind of moral vandalism. To that end, the present study proceeds as follows: Chapter i traces the fraught relationship between cosmopolitanism and cynicism as they came to represent two independent normative perspectives. Chapter a repurposes Michel Foucault's delineation of 'Platonist' and `Cynical' models of truth-telling, turning his primarily historical classifications into an interpretive frame for understanding the state of contemporary political theory. As I try to make clear, by 'Platonism' I am not referring to a specific metaphysical doctrine, but to a set of methodological conceits shaped by a self-serious image of philosophy as an indispensable social practice (and the related notion that philosophical 'breakthroughs' are the pace-setters for wider cultural improvements). Subsequent chapters serve to elaborate the ways in which this 'Platonism' continues to operate within contemporary political theory and fuel moral-political anxieties about cynicism's supposedly malign influence. Chapter 3 critiques John Rawls' defence of a specialised intellectual division of labour, according to which a subset of 'fundamental' political questions must be settled in advance by jurists and other normative experts in order to facilitate the historical evolution of public reason. Chapter 4 assesses Thomas Pogge's efforts to bring normative philosophy closer to policymaking by way of a paternalistic duty of care imputed to powerbrokers. Chapter 5 considers Nancy Fraser's attempt to democratise moral pedagogy, so that a more virtuous circle of

deliberation and critical reflection can shape interactions between social theorists and the political agents they study. Chapter 6 takes the above concerns about philosophical praxis and considers them in light of Jürgen Habermas' programmatic enforcement of 'postmetaphysical' constraints in all theoretical endeavours. In the Concluding chapter, I sketch an outline of what a rehabilitated critical theory of cynicism might actually look like and what social-historical phenomena it may help illuminate.

I appreciate that my peculiar manner of proceeding will make this book a hard sell. This is not a book about cosmopolitanism or Platonism per se—nor do I aim to present 'cynicism' as a discreet historical phenomenon or freestanding normative perspective. Rather, I am attempting to challenge the limitations of what has come to define 'respectable' or 'constructive' critique. In the process, I am also hoping to defuse the alarmism that colours discussions of cynicism and disaffection, both within the academy and in mainstream political commentary. But before we can secure the requisite theoretical and rhetorical space in which such a critical theory of cynicism might develop, there is a good deal of philosophical clearing to be done.

"This Ain't Your Grandparents' Civil Rights Movement "

Let us return briefly to Thomas Pogge's preoccupation with 'moral loopholes'—specifically, his conviction that these institutional grey areas allow a 'cynical' relativism to contaminate the basic moral duties we owe to one another. Importantly, Pogge tied the feasibility of his 'pro-poor' policy proposals to the efficacy of a morally awakened vanguard of intellectuals, parliamentarians, and business leaders. His underlying assumption appeared to be that, without this 'orientating' influence, ethical practices are set adrift upon a sea of contingencies, beset on all sides by predatory opportunists seeking only self-enrichment. In formulating our alternative to this and similarly 'Platonist' models of philosophical advocacy, we must first look for examples of social movements that have somehow managed to achieve political breakthroughs despite lacking the requisite attributes of 'constructive' political opposition (including a responsive hierarchical

organisation, a coherent 'party' platform, and an 'ecumenical' openness to forging of 'chains of equivalence' with ideologically parallel social movements).

The success of Black Lives Matter in instigating a wide-ranging public debate on race relations in the us lends credence to the idea that a 'disaffected' politics can be made viable despite eschewing traditional modes of 'world-disclosing' leadership, moral pedagogy, and paternalistic steering. Whereas earlier generations of civil rights activists were led by charismatic figureheads and remained anchored in traditional civic forums like churches and town halls, the diffuse and comparatively spontaneous character of BLM protests against racialised police 'enforcement' are coordinated primarily through semi-anonymous messages on social media—indeed, a very distinctive kind of 'meditative' influence. This contrast becomes even starker when we consider negative appraisals of BLM by members of that earlier civil rights generation:

> This movement is ignoring what our history has taught. The baby boomers who drove the success of the civil rights movement want to get behind Black Lives Matter, but the group's confrontational and divisive tactics make it a difficulty. In the 1960s, activists confronted white mobs and police with dignity and decorum, sometimes dressing in church clothes and kneeling in prayer during protests to make a clear distinction between who was evil and who was good. But at protests today, it is difficult to distinguish legitimate activists from the mob actors who burn and loot. The demonstrations are peppered with hate speech, profanity, and guys with sagging pants that show their underwear. Even if the BLM activists aren't the ones participating in the boorish language and dress, neither are they condemning it.

Here we find the familiar mix of astonishment, disappointment, and incomprehension that tends to greet all unconventional modes of political protest. BLM activists are accused of taking the 'wrong lessons' from history—as well as speaking and dressing inappropriately. Let us also note Rev. Dr. Barbara Reynolds' wounded tone, her peculiar blending of condescension and self-pity, as well as the strange superficiality of her critique of 'sagging

pants'—a sartorial infraction she places on a par with the burning and looting of commercial properties. It is almost as though the real injury stems from this writer and former activist not being granted a sufficient level of 'respect' and appreciation for what she believes are the unassailable historical accomplishments of her generation. Interestingly, despite being the biographer of Corretta Scott King, Reynolds' comments about 'respectable' dress and personal decorum ignores the sharper edges of Martin Luther King, Jr.'s own ideas about what legitimate resistance looks like. The wearing of 'church clothes,' for example, was not simply meant to signify 'good vs evil,' but was also said by King to be a way of making himself 'coffin-ready' for what he (correctly) assumed to be the high likelihood of murderous reprisals. Nor did King believe it reasonable to castigate protestors whenever violence erupted. Interviewed by Merv Griffen in July, 1967 just days before the outbreak of violent unrest that became known as the Detroit Riot (43 dead, 7,200 arrested, and 2,000 buildings destroyed in a toll of destruction that remained unsurpassed until the Los Angeles riots thirty years later)—King suggests that rioting and violence are all-but-inevitable within the necessary process of exposing injustice:

> You can't blame nonviolent demonstrators who are demonstrating for their constitutional rights when violence erupts ... This would be like blaming the robbed man for the evil act of robbery because his possession of wealth, money, precipitates the act ... This is like looking at a physician, who, through his skills, through his medical ingenuity, discovers cancer in a patient, and blaming the doctor for causing the cancer. It's usually the other way around. We praise the physician for using his ingenuity to bring out into the open something that needed to be discovered and something that can be cured if it is caught early enough. And this is exactly what we have done. We can't be blamed for the violence that emerges. We've merely brought it out in the open.

There is another important point to be made about the comparison between 'legitimate' models of disobedience, represented by King, and the 'mob mentality' used to denigrate B LM. In the final year

of his life, King was himself openly in conflict with prominent members of the board of the NAACP. As he grew more strident in protesting the us war in Vietnam, and came to link this 'imperialist' project to the irredeemably exploitative character of American capitalism and the institutionalisation of racism, King was pilloried by the national and local press, and counselled by fellow campaigners and fundraisers against expressing 'unpatriotic' sentiment (the concern being that King's inflexibility would endanger more immediate plans for domestic legislative reform). Similar disputes over 'messaging' and 'tactics' between the current civil rights 'establishment' and Black Lives Matter were evident during the funeral for Michael Brown, a black man murdered by a Ferguson, Missouri police officer. Reverend Al Sharpton was particularly pointed in his criticisms of the protestors:

> [Brown's parents] had to break their mourning to ask folks to stop looting and rioting ... You imagine they are heartbroken—their son taken, discarded and marginalised. And they have to stop mourning to get you to control your anger, like you are more angry than they are ... Blackness was never about being a gangster or a thug. Blackness was no matter how low we was pushed down, we rose up anyhow ... Blackness was never surrendering our pursuit of excellence. It was when it was against the law to go to some schools, we built black colleges ... Now, in the 21st century, we get to where we got some positions of power. And you decide it ain't black no more to be successful. Now you want to be a nigger and call your woman a ho. You've lost where you've come from. We've got to clean up our community so we can clean up the United States of America.

Steeped in pious distemper, Sharpton and Reynolds refuse to accept the next generation's failure to show deference towards their own past political achievements. It never occurs to them that they might be considered part of the problem. The anger and exasperation expressed by BLM activists towards the racialised targeting of citizens comes coupled with a deep antipathy towards a tone-deaf establishment demanding to speak on their behalf. Members of the Obama administration and the NAACP are as far removed from their daily lived experience as the heavily militarised police force that stalks their communities: "I feel in my heart that they failed us ... They're the reason things are like this now." Keeanga-Yamahtta Taylor quotes activist Johnetta Elzie in describing how peaceful resistance changes in direct response to the futility of conventional protest:

> I became less of a peaceful protester and more of an active one. Using my voice to chant loudly along with other protesters seemed to be enough but it wasn't. Instead, I decided to yell directly at the police. I decided to dare the police to look at the faces of the babies and children their dogs were so ready to chase down. As more people began to look directly at the police and yell their grievances, the more aggravated they became.

These public showings of profound anger dovetail with other, covert provocations, most spectacularly the defacing of Confederate monuments with names of black citizens murdered by police. As with Snowden, my issue with judging the 'acceptability' of BLM tactics in accordance with a liberal model of civil disobedience is that such a framing entails significant normative 'discounting', by which the protestors are adjudged deficient embodiments of resistance, too easily provoked, too undisciplined in their rage, too facile in tarnishing the essential organs of law enforcement with a white supremacist brush. Missing from these critiques is any acknowledgement that the patronising demand to allow justice to be realised 'in the right way,' to allow the gently suasive force of consciousness-raising activities to take effect, to learn to appreciate all that has already been accomplished—that this is what fuels the fire.

Alongside these intergenerational tensions, it is important to highlight specific rhetorical features of the 'Black Lives Matter' credo. The label is deceptive in its simplicity: viewed semantically, the assertion that African American citizens have the same right to not be murdered by police as white citizens seems self-evident, non-ampliative, even trivial. And yet, consider the blustering, dismissive responses from certain quarters, and how this outrage is fuelled by that initial point of agreement: "Yes, but ALL lives matter." Consider

too how, in response to mounting evidence of racialised policing across a majority of municipalities, we are told that accepting the premise "black lives matter," somehow entails the consequent that 'Blue Lives' do not. Thus, on the one hand, we have superficial semantic agreement about the universal moral worth of all citizens and, on the other hand, radically divergent judgments about whether this principle is being realised in practice. This gives us the following 'perlocutionary' effects: asserting moral equality in such an outspoken manner seems deliberately designed to provoke further abuses, or to at least publicise their violation; it also seems rhetorically crafted to elicit an emotional response, and thereby draw out the latent racism that refuses to admit systemic abuses are taking place. The now infamous Black Lives Matter chant "Hands up! Don't Shoot!" is obviously an assertion of the right to unmolested peaceful protest. But, in confronting police officers as if they were all ignorant, trigger-happy sociopaths (when this is obviously only an accurate description of a sizeable minority) there is also a clear incitement to reactionary violence, 'daring' police officers to let the mask slip. If we recall Habermas' bank robber example from the last chapter, there is clearly a 'parasitic' normativity underwriting BLM'S 'manifest' strategic action (e.g. an acknowledgement of the legal authority granted to police departments to assess the 'threat level' posed by the protestors and decide whether to deploy their military-grade armoury in dispersing the crowds). But unlike the bank robber, the mantra-like character of "Hands up, don't shoot!" both commemorates the victim of police violence (in this case Michael Brown, although the names Trayvon Martin, Freddie Gray, Alton Sterling, Eric Garner, Philando Castile, and twelve-year-old Tamir Rice have also become rallying cries) while simultaneously asserting a contestable description of the events that led to his murder by a Ferguson, Missouri police officer (Brown's innocence was openly contested in the media by those who tried to emphasise his criminal record or physical characteristics as mitigating factors supporting the police officer's claims of acting in 'self-defence'). "Hands up, don't shoot!" is a performative 'surrender,' which is understood correctly by both parties as co-intending the precise opposite of surrender—it is primarily a demand, and a preemptive indictment of the

conduct of those assigned with protecting the protestors' right to assemble. This gesture of hands raised in 'surrender' quickly became way of signifying solidarity with BLM protestors, despite having originated with the (allegedly) unanswered plea of a dying man. As such, it retains a double-edged strategic/normative character, denouncing the illegitimacy of us police enforcement, while also inviting their members to prove the protestors wrong by not opening fire on unarmed citizens.

Hope of the Hopeless

It is not just the practical impotence of normative theory's pious pronouncements that makes it objectionable from a cynical vantage point; there is also something almost wilfully cruel about the way 'fundamental' rights and duties are dangled over the heads of victims of injustice. To offer just one example, when Hannah Arendt first formulated her defence of the 'right to have rights,' the global population of refugees was estimated to be around 2.1 million people. According to the latest statistical report by the UNHCR, the global population of refugees now stands at over 21.3 million (including 5.2 million Palestinians). Additionally, there are over io million 'stateless' persons without a recognised nationality—who are themselves only a fraction of the 65.3 million people forced (at least temporarily) from their place of origin. As theorists concerned with defining and defending categories of citizenship, what are we to make of this steadily growing, and increasingly permanent population? More importantly, how are the displaced and dispossessed learning to cope (both collectively and individually) with their consignment to a moral-legal no man's land? The time has come to redevelop our analytic and normative frameworks to better reflect the experiences of those attempting to negotiate their way around the opaque and brutally arbitrary legal processes that determine their legal status and political entitlements. Is it even right to project normative expectations and 'responsibilities' onto persons who have had little or no say in determining their own futures?

Ever since Diogenes was first exiled from Sinope, the cynic's distrust of conventional political boundaries has provided fertile soil for the moral imagination. Diogenes' semi-ironic declaration of cosmopolitan status belied his lack of equal status

[isonomia] and the right to address the Athenian assembly as a citizen [isēgoria]. What's more, his performative presence in the marketplace confounded conventional nomological and rhetorical distinctions between political speech and theatrics. Despite having no 'right' to free speech, Diogenes found a way to get himself heard. Regarding statelessness more generally, debates surrounding the acceptance and integration of non-nationals (including refugees, asylum applicants, as well as economic migrants), typically stay mired in the language of 'risk' containment, whereby those lacking a recognised legal status are seen as potential sources of violence, fanaticism, or free-riding. Even advocates for less restrictive immigration regimes approach the issue from the top-down, laying out the various duties and liabilities of receiving countries, and unpacking the conceptual contents of sovereignty or self-determination on behalf of the stateless. In contrast to this 'Platonist' conceptualisation of human beings as imperfect vessels for rights, cynicism treats rights, laws, and moral ideals as mere 'conventions'—inherently indeterminate and invariably prone to failing the very persons they were designed to protect. What distinguishes cynicism from both nihilism and quietist relativism, is the conviction that such feelings of disaffection and distrust demand that we seek out opportunities for subverting reified standards and hypocritical norms. Although its conceptual twin cosmopolitanism is more immediately associated with blueprinting grand perspectival shifts in political and moral identity cynicism's anti-utopianism does not entail the dereliction of civic engagement and collective action. Rather, it describes the form of opportunistic 'coping' that is often the only political tactic available for the powerless and dispossessed.

As Nancy Fraser helpfully reminded us in Chapter 5, we would do well to allow 'theory' to be led by 'practice.' The redefinition of 'successful' political agency in terms of opportunistic survival, rather than the implementation of a comprehensively dreamed-out alternative, also means that expectations of political progress should not assume 'failed' imaginaries no longer provide orientation for emancipatory hope. Lori Allen's ethnography of interactions between Palestinians and human rights organisations in the Occupied West Bank offers a compelling example of how

profound disaffection can still be distinguished from despair. Allen recounts how the frictionless instrumentalisation of 'human rights talk' (under the auspices of the international community, the Israeli occupation, and the faltering Palestinian National Authority) has engendered a political environment "in which contrary values are enacted, empty rhetoric is the norm, and organisations within the system generate profit without producing positive social change." While international donors, human rights organisations, and associated training programmes pay lip service to fundamental rights, their de facto group agency has facilitated an unaccountable, supranational infrastructure riddled with abuses and perverse incentives. This cross-contamination of the 'real' and 'ideal' easily reproduces cynical distrust and dissembling, by which representatives of HROs and recipients 'go through the motions,' receiving aid and vocational training without any real expectation that these contribute to an improved political condition. Nevertheless, Allen argues, it is wrong to conclude that this superficial 'performance' of lofty ideals is politically or morally self-defeating. Within the 'monotony of unresolved conflict,' communally expressed disappointment and Tedupness' [zahaq] is what enables actors to keep a liberated Palestinian state imaginable, despite this no longer being a feasible or reasonable expectation. Here 'cynicism' is used to define a sensibility "at once intellectual and emotional, critical, contemplative, and felt—that is simultaneously an expression of disappointment, frustration, and hope." As such, it is a reversal of the more familiar trope of cynical resignation, whereby marginalised and oppressed communities are bereft of sufficient will for anything beyond insipid 'obedience' to transparently illegitimate regimes. What Allen's analysis suggests is that, even in the absence meaningful political representation, the image of 'the nation' persists as a ghostly, daguerreotype 'negative' haunting the faltering edifices of statehood—and therefore retaining genuine normative purchase:

> What determines [both the Palestinian Authority and Independent Commission for Human Rights] legitimacy in front of the Palestinian people are the values of nationalism and solidarity, populist principles, issues of class, and shared

knowledge of political histories. The Westerners' money that buys the police cars and demands human rights performances is seen as having corrupted both Palestinian political values and the people who are bought and induced to act in insincere, non-nationalist ways. The PA's state-making efforts, with their focus on building up oppressive security forces and quelling the direct fight against occupation while performing support for human rights, are dissonant within a Palestinian nationalist idiom that speaks first and foremost of collective liberation. As the PA and the ICHR struggle to assert their authority over each other while seeking to please the United States, Israel, and donor countries, Palestinians' cynicism is incited. Their disdain grows in the cracks between the PA'S pretensions to sovereignty, the IC HR'S aspirations to protect human rights, and the overwhelming reality of military occupation and its abuses.

The rise of Hamas to national leadership within the Gaza Strip was based in large part on a populist platform of anti-corruption and commitment to an Islamic value system of sincerity, transparency, and public service. But even here, Allen notes, the absence of any meaningfully autonomous capacity for governance means the 'Change and Reform' party leaves its own ideological commitments precariously suspended between the exigencies of Israeli control and demands by international donors that the party engage with the human rights 'system' (which has long been linked to the 'corruption' of Fatah and the PLO).

A similarly spectral nationality can be seen in the failed-but-persistent struggle by the Standing Rock Sioux tribe to halt completion of the Keystone XL pipeline, and prevent its expected daily delivery of over 470,000 barrels of crude oil from coming into close proximity with the tribe's primary water reserves. Here, we have a synthesis of two hopeless causes: the never-completed historical reckoning by the us with its near-genocidal policies towards First Peoples, and the catastrophic continuation of resource extraction despite proven environmentally catastrophic risks. Having failed to halt plans to complete this link to the Canadian oil sands, these self-described 'water protectors' set fire to their makeshift camp, in what they referred to as a "final act of prayer and defiance":

Indigenous presence must be confined, erased and then forgotten, so that the United States may continue to live upon and profit mightily from lands taken from indigenous people. The erasure of indigenous people explains why Dakota Access was rerouted from upstream of Bismarck south to Standing Rock. It explains why pipelines can be hammered through Native communities without regard to their treaties and indigenous, constitutional and human rights. It explains why a multi-billion dollar pipe can be drilled through Standing Rock before long-needed basic infrastructure is built. It explains how, after months of unprecedented protests and visibility, Trump can claim that he received no complaints about the pipeline. It explains how Oceti Sakowin can be wiped off the map. It is impossible to describe the totality of this picture of land theft, containment, poverty, oppression, policing and extraction as anything other than colonialism. But from the moment that colonialism ensnared land and life, indigenous people fought it—none more than Sitting Bull and his kin, the Oceti Sakowin. They have lit a fire on the prairie in the heart of America as a symbol of their resistance, a movement that stands for something that is undoubtedly right: water that sustains life, and land that gave birth to people. In its ashes there is the potential for a more just future for this land, this water, and all the nations and people who share it.

The presumptive claim to stand as the 'true' representatives of 'all who share this land' may seem an idealistic message wholly out of step with the rueful compromising attitude of the cynic. But, as we see with the persistence of the national Palestinian 'dream' under endless occupation, this defiance is rooted in an unmastered past rather than a hopeful future. Just as Hamas' willingness to abide by universal standards of human rights is partly intended as an indictment of their unequal enforcement, so too the rerouting of the Dakota Access pipeline is used to confirm the darkest suspicions about colonialism's uninterrupted reign in the heartland of American democracy. And yet, the seemingly sporadic, piecemeal efforts by Indigenous peoples to regain some vestige of autonomy through the rediscovery of traditional

hunting, fishing, and other land-based practices; and efforts by activists to disrupt pipeline construction and pursue legal challenges against mining industries, have had an appreciable impact—not just in terms of forcing these issues into the political mainstream, but also in terms of slowing the destruction of the natural environment.'" All this, without the edification of think tanks and environmental ethicists—which might lead us to question whether the impulse to litigate 'fundamental' rights and duties on behalf of victims of injustice as a 'first step' towards justice remains a worthwhile philosophical pursuit. Such deflationary negativism is not, however, directed by Romanticist pathos, or self-regarding contrarianism—it is driven by an interest in articulating the living consequences of institutionalised hypocrisy and understanding the capacity for resistance which persists, even in the abeyance of 'rational hope.' Although more needs to be done to prove the merits of these examples, as well as their alleged incompatibility with established moral and political paradigms we have at least arrived at a provisional conclusion: As a thematic orientation for critical social theory, cynicism offers a way for philosophy and the social sciences to prove their continued relevance by helping illuminate phenomena that is otherwise being ignored or denigrated. By these lights, contemporary theory can also avoid succumbing to a form of Flat Earth denialism—per which, any attempt to seriously engage with perspectives that do not comfortably abide within the sureties of a shared Kantian horizon are doomed to fall over the edge into an abyss of moral relativism and political nihilism. Within a nonideal world, replete with institutional failures and democratic deficiencies, cynical distrust and disenchantment are not necessarily counterproductive or self-serving sentiments. Cynicism's constructive potential expresses a nondefeatist ethos for coping with the uncertainties, betrayals, and false promises that remain constant features of our social and political existence. <>

[The Oxford Handbook of Intellectual Property Law](#) edited by Rochelle C. Dreyfuss and Justine Pila [Oxford Handbooks, Oxford University Press, 9780198758457]

We live in an age in which expressive, informational, and technological subject matter are

becoming increasingly important. Intellectual property is the primary means by which the law seeks to regulate such subject matter. It aims to promote innovation and creativity, and in doing so to support solutions to global environmental and health problems, as well as freedom of expression and democracy. It also seeks to stimulate economic growth and competition, accounting for its centrality to EU Internal Market and international trade and development policies. Additionally, it is of enormous and increasing importance to business.

As a result there is a substantial and ever-growing interest in intellectual property law across all spheres of industry and social policy, including an interest in its legal principles, its social and normative foundations, and its place and operation in the political economy. This handbook written by leading academics and practitioners from the field of intellectual property law, and suitable for both a specialist legal readership and an intelligent but non-specialist legal and non-legal readership, provides a comprehensive account of the following areas:

- The foundations of intellectual property law, including its emergence and development in different jurisdictions and regions;
- The substantive rules and principles of intellectual property; and
- Important issues arising from the existence and operation of intellectual property in the political economy.

Excerpt: In our current age, expressive, informational, and technological subject matter are often described as having increasing importance. The growing emphasis placed by states and businesses on the recognition and protection of intellectual property simultaneously reflects and supports this view. intellectual property regimes-copyright, trademark, patent, and related rights—are the primary means by which jurisdictions seek to promote and regulate human expression, information, and technology. By enabling those responsible for the creation of intellectual products to exclude others from their benefits, these laws aim to encourage innovation and creativity, and thereby to support solutions to global environmental and health problems, in addition to promoting freedom of expression, culture, and

democracy. They also seek to stimulate economic growth and competition—accounting for their centrality to US foreign trade strategies and European Union (EU) internal market trade and development policies—and they are of enormous importance to business. According to a 2014 report commissioned by the UK Intellectual Property Office, for example, in 2011 UK business invested £126.8 billion in knowledge assets, compared with £88 billion in tangible assets. Of this investment, approximately 50 percent (£63.5 billion) was protected by intellectual property rights, including an estimated 10 percent in assets protected by patents, 47 percent in assets protected by copyright, 3 percent in assets protected by registered design rights, 22 percent in assets protected by trademarks, and 18 percent in assets protected by unregistered design rights.

In recent decades, these factors have contributed to a substantial and growing interest in intellectual property across all spheres of industry and social policy, including an interest in its legal principles, its social and normative foundations, and its place and operation in the political economy. It is in recognition of and response to this interest that we agreed to edit the current Handbook. Consistent with the focus of the other volumes in the Oxford Handbook series, our aim in doing so has been to provide a detailed entrée to the field suitable for a wide academic, practitioner, and general audience.

Intellectual Property Law: An Anatomical Overview

The Theory of Intellectual Property

Before exploring the technical aspects of intellectual property law, it is appropriate to consider briefly the reasons for its existence and the particular goals that it seeks to achieve. Doing so raises immediate difficulties for two reasons. The first is the lack of consensus over why (and if) we should have IP regimes, and the second is the variety of intellectual products regimes that exist, and the need to distinguish them when considering their aims and theoretical bases.

There are two main ways and traditions of thinking about intellectual property. According to the first, which has its roots in continental European

jurisprudence, intellectual property laws recognize the special claims of creators to exclude others from their creations, either as a means of protecting their personhood or their financial and spiritual autonomy, or in recognition of their self-ownership, and the entitlement this gives them to exclude others from the things they labor to create. According to this reasoning, recognizing and protecting intellectual products is primarily a matter of morality.

On the other side of the theory fence sit the instrumentalist accounts of intellectual property, which are more commonly associated with common law systems. According to these accounts, the existence of intellectual products rights is less a matter of morality than of expediency, and of the utility or convenience of intellectual property rights as means of securing certain socially and economically desirable ends. While the envisaged ends vary among regimes, they include the creation of efficient markets for works and other creative subject matter that would otherwise be difficult to commercialize due to their intangibility, and thus, their non-excludability; the provision of incentives to produce and disseminate those subject matter; and the promotion of competition among those engaged in such production and dissemination. If intellectual property rights did not exist, the argument goes, there would be little to prevent third parties from copying and distributing the intellectual products of others as soon as they enter the public realm, and thus little to motivate (or enable) authors and other creators to devote their time and resources to producing them. So too, it is said, by restricting access to intellectual property subject matter, intellectual products rights promote competition among those engaged in their production, thus increasing the number and variety of intellectual products that enter the public realm. Different again is the end said to be secured by the trademarks regime. Rather than (or in addition to) encouraging the creation of new trademarks and the development of goodwill in respect of them, recognizing the rights of traders to prevent others from using their marks in respect of identical or similar goods or services facilitates transparency in the marketplace, and thereby ensures the ability of consumers to make informed purchasing decisions, and the ability of traders to depend on fair treatment by their competitors. While these

theoretical strands are different and militate in favor of divergent forms of legal protection, they can both be said to have emerged from similar historical imperatives: from the interest of states in improving productivity and social welfare, as well as from the difficulties that many creators face on account of their limited ability to exploit their work financially, and the dissatisfaction that they experience with other methods for supporting themselves and their families, such as teaching, patronage, and unrelated forms of employment.

These theories are, of course, merely points on a landscape that includes many other theories of intellectual property of more or less relevance for different regimes.

This Book

The diverse actors and institutions, rights and interests, laws and lores discussed in this Introduction play out in many ways throughout the book. Part II, on Social and Normative Foundations, takes a theoretical approach to intellectual property and thus views these rights though a variety of lenses: intellectual property as property (Richard Epstein), and intellectual property rights as rights of property in the classic, Hohfeldian sense (Rob Merges); intellectual property as a public interest mechanism (Rebecca Tushnet); intellectual property in its relationship to codified international norms of human rights (Laurence Helfer); and intellectual property as an economic tool (Stephen Maurer).

In his chapter on intellectual property and property, Richard Epstein studies the two main commitments that inform intellectual property jurisprudence: the first to ensuring strong property rights for intellectual property subject matter, and the second to limiting the impact of intellectual property rights on the public domain to prevent the development of patent and other intellectual property thickets that might block technological innovation, competition, and creativity. He argues for an approach to intellectual property that begins with a comparison of the ownership of intellectual property rights with the ownership of natural resources, including particularly land, air, water, chattels, and animals, before asking how

each intellectual property regime ought to be modified to take into account its distinctive nature.

Rob Merges also views intellectual property through the lens of property. Beginning with a conception of intellectual property rights as really rights and as really rights of property, he goes on to consider what kind of rights they are specifically. Drawing on Hohfeld's taxonomy of legal rights as claim rights, liberty rights, powers, and immunities, Merges offers a "common sense" understanding of the nature and structure of intellectual property that challenges the tendency to equate proprietary conceptions of intellectual property with absolutist entitlement. He then considers three common objections to conceiving intellectual property as property—the need to follow government-mandated procedures to acquire it, the absence of any automatic entitlement to injunctive relief for its infringement, and its role in regulating entry to economic markets—and demonstrates why each ought to be rejected. The result is a defense of conceptions of intellectual property rights as rights of property, with an emphasis also on their limited nature.

In the following chapter, Rebecca Tushnet takes a very different approach by focusing on intellectual property not as a private right, but rather as a means primarily for promoting the public interest. Noting the absence of reliable empirical evidence about the impact of different levels of intellectual property protection, she advocates reliance by law makers and decision makers instead on broad principles aimed at ensuring distributive justice and maximizing output. The premise of her approach is a realist sensitivity to the ways in which people are affected by intellectual property rights, and to the function of intellectual property rights in a broader social and political context.

Laurence Helfer continues this discussion of intellectual property as a means of promoting public interest values in his chapter on intellectual property and human rights. He focuses on international commitments to human rights, and describes how the coevolution of fundamental rights instruments and intellectual property agreements has created a framework for defining public interest values, and a doctrinal mechanism for national and international courts to make these

values more precise and enforceable. That some of those rights are now being incorporated into intellectual property instruments themselves reflects the success of early scholarly attempts to have the intellectual property system internalize public interest values.

Intellectual property can also be conceptualized as an economic tool. In his chapter, Stephen Maurer takes that perspective to review the conflict between public and private interests and among successive generations of innovators. Based in part on the pioneering work of his partner Suzanne Scotchmer, he describes the models that modern economists use to think about intellectual property rights and about the impact those rights have on technological progress and cultural evolution.

The theoretical discussion of Part II suggests further possible conceptions of intellectual products that are also apparent in other parts of the volume. One is a conception of intellectual property as an instrument of trade, supported by the early recognition of EU competence in intellectual property, the WTO's establishment of TRIPS, and the prominence of intellectual property clauses in international investment instruments. This conception of intellectual property is reflected in several of the chapters that follow, including Sam Ricketson's chapter on the international intellectual property system, Rebecca Eisenberg's chapter on intellectual property and public health, and Carolyn Deere Birkbeck's chapter on intellectual property, development, and access to knowledge. Its premise is a view of intellectual property rights as promoting the smooth functioning of international (and domestic) markets, including by facilitating access to markets by developing countries and small and medium-sized enterprises.

Another way of conceiving some intellectual property rights at least derives from their historical evolution from claims sounding in the fundamental rights of human creators. Much of this history can be gleaned from the separate chapters in Part III on the emergence of intellectual property rights around the globe, and in Part IV on specific intellectual property rights. While capable of taking several forms, views of intellectual property rights as fundamental rights of a creator typically proceed from a Hegelian conception of intellectual

property subject matter as external manifestations of the personality of their creators, a Lockean conception of self-ownership as entailing rights of property in respect of one's creations, or a libertarian or Kantian conception of intellectual property as necessary to secure external freedoms. Such conceptions are closely related to property perspectives of intellectual products, as made dear in the chapters by Merges and Epstein.

Moving on from theoretical accounts of intellectual property, the chapters in Section III consider the emergence and development of intellectual property regimes in different jurisdictions and regions throughout the world. These chapters can be broadly divided into three groups. The first contains the chapters by Catherine Seville and Sam Ricketson on the earliest domestic intellectual products laws of Western Europe and the international intellectual products system respectively, which in combination provide the foundations of all intellectual products systems today. The second contains the chapters by Oren Bracha, Daniel Gervais, and Kimberlee Weatherall on four former British colonies—the US, Canada, Australia, and New Zealand—and the challenges they have faced in adapting their colonial intellectual property regimes to reflect their local identities and needs. And the third contains the chapters by Mihály Ficsor, Christoph Antons, Michael Birnhack and Amir Khoury, Caroline Ncube, and Mônica Steffen Guise Rosina and Fabrício Polido on the emergence and development of intellectual products law in different regions— Central and Eastern Europe, Asia, the Middle East, Africa, and South America, respectively—in which we see repeated on a larger scale the complexity of social, political, economic, ideological, and legal factors that have shaped and continue to shape intellectual products laws and systems around the world, and the ways in which those laws and systems in turn shape the social, political, economic, ideological, and legal identity of different countries and regions.

In her foundational chapter on Western Europe, Catherine Seville traces the long histories and diverse sources of what we now know as "intellectual property:' She shows the myriad ways in which different intellectual products laws and

systems have been introduced and developed in response to particular social problems and in reflection of the political and economic thinking of different times and countries, and reveals the balance between private and public interests to have been as important historically in intellectual property as it is today.

The growing concern by the nineteenth century of Western European states to protect domestic intellectual property rights abroad led to the emergence and development of an international intellectual property system. In his chapter, Sam Ricketson considers the organizing principles of this system, as well as its principal actors and components. He emphasizes the difference between national and international intellectual products systems, including the comparative complexity of the latter due to the many gaps and inconsistencies in its coverage and content, and the variety of internal and external pressures to which it is subject.

The development of the international intellectual products system reflects the emergence of the US as a key player in the intellectual property field. In his chapter on US intellectual products law, Oren Bracha emphasizes the multi-constitutive role of technological, economic, political, and ideological factors in shaping the modern US intellectual products system, and vice versa, from its modest British and colonial origins to its much expanded form today. Among the themes emphasized by his discussion is the self-perpetuating nature of intellectual products rights and systems, and their non-deterministic growth and development.

The Canadian intellectual products system is discussed by Daniel Gervais, who considers the unique factors that have influenced it. These include Canada's mixed common and civil law system, and the rich comparative legal methodology it has engendered, as well as the country's geographical proximity to the US. The challenge of using intellectual products laws to promote Canadian innovation and creativity while supporting trade in intellectual products subject matter from across the border is discussed, as is the influence on Canadian domestic law of international treaties and harmonization initiatives.

From Canada we move to two further Commonwealth countries: Australia and New Zealand. Described by Kimberlee Weatherall in her chapter as "siblings rather than twins;' these two neighboring states and former British colonies have also faced the challenge of developing and maintaining intellectual products systems that reflect their local circumstances, including their different relationships with their local indigenous communities, while meeting the requirements of international treaties and trade relations.

That brings us to the third group of chapters in this section. Mihály Ficsor begins with his study of the emergence and development of intellectual products law in the 28 former socialist countries of the Central and Eastern European bloc during their period of transition to capitalist political economies. He also emphasizes the range of factors that have helped to shape each country's intellectual products laws, from its social and legal traditions and level of development, to its governing ideology and membership of international communities and intellectual products treaties, and demonstrates that, while not all of the Central and Eastern European countries have completed their transition to free market economies, their intellectual products laws nonetheless reflect broad consistency with international standards. At the same time, he shows that work is still needed in some to meet the challenges of intellectual property rights management and enforcement.

In his following chapter, Christoph Antons uses a range of topical case studies to sketch the complex and diverse stories of intellectual products law's emergence and development in Asia. The focus of these studies are: Japan, described by Antons as a trailblazer in adapting to Western postindustrialization intellectual property laws due to its unique technological opportunities in the nineteenth century; South Korea and Singapore, which he casts as representing Asia's first generation of newly industrialized economies, and providing strong intellectual products protection motivated by different industrial aims; China and India, which, as large and developmentally diverse countries, are shown to have experimented with their intellectual products systems to cater to different interests, using their influence to challenge

the standard international intellectual products models and norms that exist; and the former British and European colonies that with Singapore make up the ASEAN region, which have only recently begun to accede to international intellectual products treaties and modernize their colonial intellectual products systems accordingly, often in response to pressure from the US.

Even more diverse are the countries considered by Michael Birnhack and Amir Khoury in their chapter on the Middle East. Emphasizing the need to take a broad perspective of intellectual property law that considers fully the legal, political, cultural, and economic context in which it operates, these authors trace the emergence and development of intellectual property in the Middle East from the Ottoman Empire, based on Islamic, Sultanic, and customary law, to the increasingly secularized age of the nineteenth and twentieth centuries. The first country discussed is Israel: a democratic Jewish state with a secular intellectual property system derived from the British, increasingly influenced by the US, compliant with international treaties, and routinely enforced, sometimes at the expense of local Israeli cultural needs. More complex is the situation in the four Arab countries that the authors study—Egypt, Jordan, Saudi Arabia, and the United Arab Emirates—due to a range of cultural, political, and economic factors, including the limited civil and political freedoms that people in these countries tend to enjoy, and the challenges they have faced in enforcing those aspects of their intellectual property laws imposed from abroad.

In her following chapter, Caroline Ncube considers the vast and diverse African continent from its pre-colonial origins in the fifteenth century, with a particular focus on more recent regional intellectual property arrangements. Her discussion reveals how a rush to implement international intellectual property treaties has led to the adoption of intellectual property standards that are not necessarily appropriate for African states at different levels of development, and to a complex and fragmented institutional landscape. She concludes by questioning the degree to which intellectual property can be said to have served African interests.

Mônica Steffen Guise Rosina and Fabrício Polido conclude this section with their study of intellectual property law in South America since the nineteenth century. They show the different intellectual property models that took root before the late twentieth century, the regional attempts at legal harmonization and institutional coordination that have taken place since then, and the recent norm setting that has occurred in South America through trade agreements with the US and EU particularly. The final picture they present is of a fragmented region that combines high aspirations in the intellectual property field with only limited success in the creation of regional intellectual property systems to date.

The focus in Part IV shifts more squarely to the individual intellectual property rights themselves. First are chapters on the core rights (Dan Burk on patent law, Jane Ginsburg on copyright, Dev Gangjee on trademarks and geographical indications, Barton Beebe on design rights, Huw Beverley-Smith on rights in data and information, and Estelle Derclaye on overlaps among these rights). Then come three chapters on issues regarding exploitation (Michael Kasdan on licensing, Terence Ross on remedies, and Eun-Joo Min and Christian Wichard on crossborder enforcement). Dan Burk begins with a chapter on the patent regime that emphasizes its close association with technological innovation and consequential dynamism. He offers a series of vignettes in multiple jurisdictions that reveal the constant evolution of patent doctrine, institutions, and means of exploitation. His study underlines the range of theoretical and practical issues endemic to the patent system, and ties those issues to ongoing controversies that have attracted widespread public attention. Jane Ginsburg follows with her chapter on the copyright regime, moving us from the technological to the creative realm. Taking each of the major doctrinal challenges in copyright law in turn, she shows how copyright and droit d'auteur approaches have each sought to advance the public interest by promoting an ecosystem of authorship that encourages people to create works and draw on the ideas, and sometimes even the expression, of others. Lastly is Dev Gangjee's chapter on the trademark and allied rights regimes. By considering a selection of issues related

to the purpose, subject matter, and scope of trademark protection, he shows how the law's traditional focus on protecting the communicative content of commercial signs has shifted alongside developments in product marketing and changing social conceptions of brands. He also discusses the related forms of protection afforded by the unfair competition, passing off, publicity rights, geographical indications, and domain names regimes to offer a full picture of those areas of intellectual property concerned less with technology or creativity than with marketing.

After this discussion of the main intellectual property rights, Barton Beebe follows with a chapter on the design regime, which protects the appearance of products. He describes a complex regime based both historically and conceptually on a mix of copyright, patent, and trademark laws and ideas, and the difficulty of ensuring adequate incentives to designers while also confining design law to its proper realm. Huw Beverley-Smith considers the problem of protecting raw information and data by exclusionary rights and duties. He looks at the various approaches that have been taken by the EU, as a leader in this field, to protecting databases, trade secrets, private information, and raw data. As in the other areas of intellectual property, he finds economic and fundamental rights values to be important drivers of protection, and frequently in conflict.

A challenge noted in many of the chapters is that of keeping each regime to its proper realm. The potential for protection of a single subject matter by different intellectual property rights gives rise to the issue of IP overlaps referred to previously, which is the focus of Estelle Derclaye's chapter. She studies the scope under existing law for intellectual property rights to cumulate, and the problems these overlaps can create for creators as well as for the public interest.

Michael Kasdan leads off the final three chapters of Part IV on exploitation. In his chapter on intellectual property licensing, Kasdan proceeds from the recognition that not all creators are positioned to exploit their work (or all of the possibilities for their work) themselves. He thus discusses the important role that licensing plays in extracting value from the subject matter to which

intellectual property rights attach. Taking patent rights as his focus, Kasdan considers the many complex decisions that intellectual property owners and licensees must make in developing and maintaining their relationships.

When such relationships break down, disputes will arise. In his chapter, Terence Ross considers the range of monetary and non-monetary remedies that are available for intellectual property infringements, and the circumstances in which they are available. How those disputes are resolved, including the outcome of any litigation that they involve, has an important impact on the perception of intellectual property rights and their value to creators and society. His discussion is followed by the final chapter of this part by Eun-Joo Min and Christian Wichard on the enforcement of intellectual property rights across borders. This chapter acknowledges the global scope of intellectual property development and exploitation, and the particular challenges that the multinational environment poses for the enforcement of intellectual property rights. These include the questions of national adjudicatory authority over foreign parties, which laws to apply in cross-border cases, and if and when courts should enforce the judgments of tribunals from other jurisdictions.

Part V on the political economy tackles the ways in which the emerging importance of intellectual property rights has impinged on a series of particular communities and distinctive interests. The "communities" chapters considers open innovators (Katherine Strandburg), traditional societies (Susy Frankel), developing countries (Carolyn Deere Birkbeck), academia (Michael Spence), and the growing social order organized around the Internet (Pamela Samuelson). The "interests" chapters cover the impact of intellectual property on competition (Scott Hemphill), autonomy (Reto Hilty), health (Rebecca Eisenberg), and the environment (Abbe Brown).

Katherine Sandburg opens the discussion of communities with a description of a community whose creative efforts challenge the assumption that intellectual property rights are essential to technological progress. She describes user innovators, a group that invents primarily to benefit directly from the advances they create and "freely

reveals" (discloses) those advances for reasons such as altruism, to garner reputational advances, or to spur others to build upon their work and improve it. Intellectual property rights affect user innovators in several contrasting ways. They may be helpful at the point where the work is commercialized, but their availability could undermine free exchange by luring some to protect information they might otherwise have freely shared. Further, the availability of intellectual property rights could expose user innovators to infringement liability Strandburg ends with suggestions for altering patent law in light of the recognition of this important form of innovation.

Susy Frankel suggests a need for other modifications in intellectual property law. Her chapter covers different sorts of user innovators: traditional (indigenous) groups that communally and incrementally produce creative expression and knowledge (songs, music, and technical information, including knowledge about genetic resources) for their own enjoyment and use. Because, as previously described by Seville, western conceptions of intellectual property focus on "the" author or "the" inventor, and can require high degrees of inventiveness, current intellectual property regimes provide poor protection for the valuable contributions made by these groups. That, Frankel argues, creates an injustice, for the fruits of their knowledge can often be owned and exploited by others. Frankel describes the approaches under consideration for providing traditional communities with recognition of, control over, and credit and remuneration for, their intellectual work and products.

The claims of traditional communities are particularly poignant because even though they are not receiving payment for their works, they must still pay the high costs associated with protected works, including modern medicines and cultural products. Developing countries are in a somewhat similar plight. They were required to adopt intellectual property protection as the price of entering the WTO. Although they benefit from the ability to trade with other WTO members, and may in the future benefit from the incentive effects of intellectual property protection, at present they are net importers of knowledge products. As a

result, intellectual property profits largely extract a tax from local populations and transfer it to foreigners. Further, the protection utilizes significant local resources for examination, registration, and the like. Carolyn Deere Birkbeck traces the efforts of developing countries, NGOs, and certain international organizations to include flexibilities within international agreements and to make intellectual property work for development.

The scholarly community represents another group that has come somewhat involuntarily to intellectual property protection. Michael Spence recounts the clash between commitments to academic freedom and Mertonian norms, on the one hand, and the desire of universities to use intellectual property rights to extract value from their faculties' creative output, on the other. His chapter questions the wisdom of the US Bayh—Dole Act, which is based on a determination that knowledge products are more efficiently transferred to the public by administrators than by those who create the advances. He suggests that distinctive rules are required to balance the special claims that academics have to steward the use of their work against the economic needs of the university communities to which academics belong.

Pamela Samuelson ends the examination of communities with her study of the community that created and maintains the Internet. Like user innovators, their creative efforts did not require intellectual property-based incentives and, like the scholarly community, they see the imposition of governance through an intellectual property mechanism as potentially destructive of a free-wheeling ethos of sharing. But unlike the other groups on whose interests intellectual property impinges, Samuelson describes a society of sophisticated tech-savvy users who have (so far) managed to join together to defeat overregulation that could undermine the social value of the Internet.

Throughout the book, it is evident that intellectual property rights, and the moral and economic interests they protect, are in significant tension with culture, science, and free expression. Balancing these interests specifically is discussed by Laurence Helfer and Rebecca Tushnet at the outset; in its final section, the book addresses the four other

important societal issues identified previously: competition, autonomy, health, and the environment.

Scott Hemphill begins this section by investigating the relationship between the interests of intellectual property holders and the public from the perspective of antitrust (competition) law and economic policy. He notes that, in a sense, the two bodies of law are the opposite sides of the same coin: intellectual property law views exclusivity as the promoter of innovation while antitrust law sees competition, as Joseph Schumpeter put it, as the engine of "creative destruction." Hemphill considers how the state's interest in creating exclusive rights influences antitrust doctrine and then turns the analysis around to look at how an interest in competition affects the structure of intellectual property regimes. He observes that at the intersection of these interests, states have produced a distinctive body of law.

Reto Hilty's chapter closely follows this discussion. He considers the clash between a commitment to party autonomy and the balance struck within intellectual property law between the interests of producers and the public, noting that the contractual relationships that largely form the focus of antitrust law are not the only self-help method creators can use to create de facto exclusivity; that technological protection measures (for example, the encryption of e-books) can supplement and complement contracts. As he shows, the effects of these practices are ambiguous in terms of public welfare, for they can enable right holders to develop new business models and better control unauthorized uses, but can also be used to protect works that should be in the public domain because, for instance, they are not protectable or the intellectual property rights protecting them have expired. He suggests directions for new legislation and, given the dynamic nature of the problem, the desirability of industry self-regulation.

In her chapter, Rebecca Eisenberg considers the relationship between intellectual property and public health. The obvious problem, as mentioned in several other chapters, is that intellectual property rights increase the cost of accessing medicine and medical technologies. Here, Eisenberg points out that there is also a subtler concern. Looking at vaccines, anti-infectives, neglected diseases, and

non-excludable innovations, she shows that intellectual property law does not always create adequate incentives to innovate. She argues that the social cost of delaying access to treatments until rights expire, along with the possibility that some important problems will never be addressed, provide reason to give governments considerable flexibility in the implementation of exclusionary rights.

Abbe Brown concludes the Handbook with an examination of the pressing issue of climate change. She traces the evolution of international climate change instruments, culminating in the Paris Convention, and notes that even in this stylized environment, the usual clash between incentivizing innovation and providing access to the resulting technologies is evident. She discusses the ways in which policymakers, including the drafters of successive generations of climate-change agreements, have approached this tension and considered the human rights aspect of protecting the environment. Harking back to Strandburg's chapter, Brown also assesses the possibilities for developing climate-change technologies through systems of open innovation.

Together the chapters in this book offer a snapshot of the intellectual property landscape at a particular point in time. As technology evolves, new forms of creativity emerge, business models change, and nations develop, the need for intellectual protection is sure to alter, as will the structures of the individual regimes that safeguard the interests of innovators, users, and the wider public in pushing forward the frontiers of knowledge. <>

Old Gods, New Enigmas: Marx's Lost Theory by Mike Davis [Verso, 9781788732161]

Is revolution possible in the age of the Anthropocene?

Marx has returned, but which Marx? Recent biographies have proclaimed him to be an emphatically nineteenth-century figure, but in this book, Mike Davis's first directly about Marx and Marxism, a thinker comes to light who speaks to the present as much as the past. In a series of searching, propulsive essays, Davis, the bestselling author of City of Quartz and recipient of a

MacArthur Fellowship, explores Marx's inquiries into two key questions of our time: Who can lead a revolutionary transformation of society? And what is the cause—and solution—of the planetary environmental crisis?

Davis consults a vast archive of labor history to illuminate new aspects of Marx's theoretical texts and political journalism. He offers a "lost Marx," whose analyses of historical agency, nationalism, and the "middle landscape" of class struggle are crucial to the renewal of revolutionary thought in our darkening age. Davis presents a critique of the current fetishism of the "anthropocene," which suppresses the links between the global employment crisis and capitalism's failure to ensure human survival in a more extreme climate. In a finale, Old Gods, New Enigmas looks backward to the great forgotten debates on alternative socialist urbanism (1880–1934) to find the conceptual keys to a universal high quality of life in a sustainable environment.

Contents
Excerpt:

Marx at the Chicken Shack

Read Marx!

Lee Gregovich's injunction has been rattling around my brain for more than half a century. A good friend of my dad, he was, I suppose, my "red godfather." His family, like many others from the Dalmatian coast, had emigrated to the copper mines of the American Southwest before the First World War. There they were embroiled in epic labor conflicts. Lee told rousing stories about his days as an IWW paper boy, selling the Industrial Worker in saloons and cathouses, and then watching as his father and 1,300 other striking miners, mostly Mexican and south Slav, were arrested by Phelps-Dodge vigilantes, put in

manure-floored cattle cars, and "deported" to a bleak stretch of desert in New Mexico. In the 1930s he became active in the Cooks Union in San Diego and joined the Communist Party. The House Committee on Un-American Activities brought its inquisition to San Diego in 1954 and Lee was subpoenaed and then blacklisted by employers. He finally found a job cooking at the Chicken Shack, an old-style roadhouse near the picturesque mountain town of Julian.

When my father had a catastrophic heart attack in my junior year, I quit high school for a semester to drive a delivery truck for my uncle's wholesale meat company. The Chicken Shack was our most distant customer and once every week or so, after delivering to country restaurants with names like the Lariat and the Lazy J, I'd scuttle up the long road to Julian. On such days Lee and I had a ritual. After the order had been put in the walk-in, he'd pour me a small glass of red wine, we'd talk briefly about my dad's health or the Civil Rights movement (he was proud that I had become active in San Diego CORE), then, as I got up to leave, he'd slap me on the back and say, "Read Marx!" (I've always liked telling this story and was not surprised when a garbled version of it, insinuating that Lee was a mysterious Soviet agent, appeared in my FBI file.)

Lee himself, like millions of other rank-and-file socialists and communists, had read little or no Marx. Wage, Labor and Capital, perhaps, and certainly some Lenin, whose The Teachings of Karl Marx was a popular substitute for reading the old man himself. Most ordinary readers, however, cowered in face of that Everest of theory, Capital. The few who attempted it usually fell into one of the early crevasses of the first chapter and never returned for a second try. This only added, of course, to the mystique of Marx's genius and the prestige of party intellectuals who claimed to have reached the summit. A study of workers' libraries in Wilhelmine Germany found that serious proletarian readers were especially interested in Darwinism and materialist interpretations of natural history, not the critique of political economy. Kautsky's Economic Doctrines of Karl Marx was "more borrowed than actually read.'" In 1936, the Menshevik authors of Karl Marx: Man and Fighter—a biography that admirably focused on

the thinker as revolutionist—estimated that "perhaps one socialist in a thousand has ever read any of Marx's economic writings, and of a thousand anti-Marxists not even one.'"

Little had changed when I joined the Southern California Communist Party in 1968 in solidarity with their stand against the Russian suppression of the Prague Spring. I was flabbergasted that new members' political education consisted solely of reading Julius Fucik's Notes from the Gallows—the stirring last testament of a young Czech Communist executed in 1943, but hardly an introduction to Marxism. My own knowledge was limited to the Paris Notebooks and bits of The German Ideology, recommended in a popular book that I had read on Marx and alienation. The only member of the L.A. Party, young or old, who seemed to have a serious understanding of Marx, and indeed was reading the Werke in German, was newly recruited Angela Davis, and she was fight¬ing too many important battles to have time to tutor the rest of us.

What made Marx a stranger to Marxist movements, however, was not simply the difficulty of certain key works and passages, but a series of other obstacles. Where to begin, for example? If you began at the beginning with dialectics, you had to endure Hegel scowling at you while you became increasingly befuddled—at least, that was my experience while trying to digest Marcuse's Reason and Revolution during lunch and supper breaks at work. I was delighted years later to discover an epigram in which the young Marx registered his own frustration with the Master and his interpreters:

> "On Hegel"
> Words I teach all mixed up into a devilish muddle,
> Anyone may think just what he chooses to think;
> Each may for himself suck wisdom's nourishing nectar;
> Now you know all, since I've said plenty of nothing to you!'

If you gave G. W. F. a detour, you might discover, with the aid of interpretations by the Marxist Humanists then in vogue, the inspiring Marx of the Paris and Brussels years. (The Holy Family [1845],

however, never made my reading list since the only person that I've ever known who read it was on acid at the time.) But then, once you thought that you had learned to walk, Althusser came along and the Young Marx suddenly became the Wrong Marx.

With few exceptions, however, the Marx of the Rue Elm and other seminars was disembodied from the "man and fighter." The works most infused with the passion of the barricades, the extraordinary political analyses of the 1848-50 cycle, were usually ignored by the philosophers. In my unsuccessful autodidact years, Marx seemed either emulsified in incompatible doctrines imposed by party ideologists (Diamat, for instance) or hidden away in mysterious untranslated manuscripts. In addition, it was almost impossible to gain an overview of the oeuvre since the publication of the English version of the collected works was still years in the future. Martin Nicolaus's translation of the legendary Grundrisse in 1973—a milestone of the New Left Review/Penguin Books collaboration—considerably leveled the playing field for non-German readers, but it also added 900 pages of required study to the several thousand pages of the four volumes of Capital.

That same year, after losing a coveted niche in the trucking industry, I started UCLA as an adult freshman, attracted by rumors of a high-powered seminar on Capital led by Bob Brenner in the History Department. Brenner and his gang (Richard Smith, Jan Breidenbach, Maria Ramos, and others) were reading Capital in the context of debates within British Marxism on agrarian class struggles and the transition from feudalism to capitalism. Later the seminar moved on to crisis theory and twentieth-century economic history. It was an exhilarating experience and gave me the intellectual confidence to pursue my own agenda of eclectic interests in political economy, labor history, and urban ecology. Apart from Hal Draper's Karl Marx's Theory of Revolution and Michael Löwy's The Theory of Revolution in the Young Marx, both indispensable, I lost interest in Marx studies as it turned from the modes-of-production debate to intensely microscopic battles over the value form, the transformation problem, and the role of Hegelian logic in Capital. "Theory" in general, as it

became disconnected from real-life battles and big historical questions alike, seemed to take a monstrously obscurantist turn toward the end of the century. I could never imagine Lee Gregovich imploring anyone to "read Jameson, read Derrida," much less to wade through the morass of Empire.

Surfing the Collected Works

Over the years my Marxism became rusty, to say the least. But there comes a time when every old student must decide whether or not to renew their driver's license. And reading Daniel Bensaïd's Marx for Our Times, a spectacularly imaginative reinterpretation that breaks free of talmudic chains, whetted my appetite for a fresh look at the "non-linear Marx" that Bensaïd proposes.' Retirement from teaching, then a long illness finally gave me the leisure to browse through the Collected Works of Marx and Engels now in English and, in a pirated version, available for free online.' Amongst recent writers who have made brilliant use of the Collected Works are John Bellamy Foster, the editor of Monthly Review, who has carefully reconstructed Marx's powerful ecological critique of capitalism—a new and exciting topic, particularly in light of later socialism's fetishism of large-scale agriculture; and Erica Benner, whose invaluable recovery of Marx's usually misrepresented views on nationalism is discussed in Chapter 2 ("Marx's Lost Theory"). And the mother lode has hardly been mined out: for example, Marx and Engels's hundreds of pages of acerbic commentaries on the deep games of nineteenth-century European politics, especially the geopolitical chess match between the British and Russian empires, clearly warrant a major new interpretation. Likewise, it would be illuminating to compare his theoretical writings on political economy with his concrete analyses of contemporary economic crises such as 1857 and 1866, topics usually assigned to the footnotes. More generally, I suspect, "Marx on the conjuncture" should become the new slogan of Marxologists.

The panoramic view of the oeuvre now available also makes it easier to recognize the blind spots and misdirections in the collaboration of Marx and Engels. The former, for instance, never wrote a single word about cities, and his passionate interests in ethnography, geology, and mathematics were never matched by a comparable concern with geography (later the forte of anarchists such as Élisée Reclus and Peter Kropotkin). He was relatively untraveled, and only at the very end of his life, desperately sick and seeking the sun, did he venture outside Western Europe. His letters from Algiers, praising the culture and dignity of the Arabs, indicated his capacity to transcend Eurocentric categories and revel in the newness of other worlds. (Alas, if only he hadn't been so wracked by illness and family tragedy.) The United States was another paradox. Its protean future was often on his mind—he was after all a correspondent for the New York Tribune—and he and Engels worked mightily to win support for Lincoln and Emancipation within the British labor movement. Yet, despite having read Tocqueville, he never focused on the unique features of its political system, especially the impact of early white-manhood suffrage on the development of its labor movement.

There can be no question that Marx saw far beyond the horizon of his century and that Capital, as the Economist (which Marx read faithfully) pointed out a few years back, remains startlingly contemporary even in the age of Walmart and Google. But in other cases Marx's vision was limited by the anomalous character of his chronological niche: arguably the most peaceful period of European history in a thousand years. Colonial interventions aside, liberal London-centered capitalism did not seem structurally to require large-scale inter-state warfare as a condition of its reproduction or as the inevitable result of its contradictions. He died, of course, before the new imperialism of the late 1880s and 1890s led to zero-sum conflicts amongst the major powers for shares of the world market. Nor could Marx, even after the massacre of the Communards, have possibly foreseen the horrific price that counter-revolution in the next century, including Thermidorean Stalinism, would exact from rank-and-file anarchists, socialists, and communists: at least 7-8 million dead.' Since the youngest and most politically conscious tended always to be in the front lines, these repeated decimations of the vanguard entailed incalculable consequences—

ones that have been almost entirely ignored by historians.

Likewise, all signs in Marx's day pointed to the continued erosion of belief and the secularization of industrial society. After the early writings, religion was quite understandably not a topic on his agenda. By the end of the century, however, the trends reversed, and political Catholicism, along a spectrum from embryonic Christian Democracy to the Zentrum to fascism, became the main competitor with socialism/communism in much of Europe, and the major obstacle to left electoral majorities in the 1910s-20s and 1950s-70s. This surprising Catholic resurgence, almost a second counter-reformation, owed much to the spread of Mariolatry and the church's aggressive appeal to proletarian mothers. The patriarchal character of the workers' movement, which Marx and Engels never challenged, made it blind to the forces at work. Despite a household full of strong, radical women, including three daughters who became prominent revolutionists in their own right, Marx never wavered as pater familias, and the movements built in his name, as Barbara Taylor and others have pointed out, actually registered a retrogression from the striking feminism of many utopian socialist sects.' Indeed, between Flora Tristan and Clara Zetkin, no woman was able to claim leadership in any of the major labor or socialist formations.

The point, even if initially difficult to swallow, is that socialists, if incomparably armored by Marx's critique of capitalism, also have something to learn from the critique of Marx and his Victorian extrapolations. I say "critique of Marx" rather than "critics of Marx" since, even in the case of those who were noble revolutionary figures in their own right, such as Bakunin and Kropotkin, the mischaracterizations of Marx's ideas were quite fantastic (as were his calumnies against them). The cult of Marx, preceded in the German workers' movement by the cult of Lassalle, justly honored a life of almost sacrificial dedication to human liberation, but otherwise did what all cults do—it petrified his living thoughts and critical method. He, of course, was aware of this danger, which is why he famously said of Jules Guesde and his "orthodox Marxist" wing of the French Workers

Party: "Ce qu'il y a de certain c'est que moi, je ne suis pas marxiste" ("What is certain is that [if they are Marxists] I myself am not a Marxist"). How many more times would he have had to say that in the twentieth century?

The Chapters

In the epilogue to my 2006 book Planet of Slums, I asked: To what extent does the informal proletariat, the most rapidly growing global class, possess that most potent of Marxist talismans, "historical agency"? Although I was not aware of it at the time, Eric Hobsbawm had asked exactly the same question in an interview given in 1995. (He is quoted at the beginning of the next chapter.) Neoliberal globalization over the last generation has recharged the meaning of the "wretched of the earth." Hobsbawm's "gray area of the informal economy" has expanded by almost 1 billion people since his interview, and we should probably subsume the "informal proletariat" within a broader category that includes all of those who eke out survival by day labor, "micro-entrepreneurship," and subsistence crime; who toil unprotected by laws, unions, or job contracts; who work outside of socialized complexes such as factories, hospitals, schools, ports, and the like; or simply wander lost in the desert of structural unemployment. There are three crucial questions: (1) What are the possibilities for class consciousness in these informal or peripheral sectors of economies? (2) How can movements, say, of slum-dwellers, the technologically deskilled, or the unemployed find power resources—equivalent, for example, to the ability of formal workers to shut down large units of production—that might allow them to struggle successfully for social transformation? and (3) What kinds of united action are possible between traditional working-class organization and the diverse humanity of the "gray area"? However, in thinking about a sequel to Planet of Slums, based on comparative histories and case studies of contemporary activism in the informal economy, I realized that I first needed to clarify how agency" was construed in the era of classical socialism—that is to say, from Marx's lifetime down to the isolation of the young Soviet state after 1921.

Although everyone agrees that proletarian agency is at the very core of revolutionary doctrine, one

searches in vain for any expanded definition, much less canonical treatment. For this reason, Chapter 1 adopts an indirect strategy: a parallel reading of Marx's Collected Works and dozens of studies of European and U.S. Labor history in the nineteenth and early twentieth century. The goal has been to find accounts of how class capacities and consciousness arose on the principal terrains of social conflict; in the socialized factory and the battles within it for dignity and wages; through sometimes invisible struggles over the labor process; out of the battles of working-class families against landlordism and the high cost of living; from crusades for universal suffrage and against war; in campaigns of solidarity with workers and political prisoners in other countries; and in movements to build alternative socialist and anarchist cultures in the very heart of industrial capitalism. The result, presented as a series of theses, is something like a historical sociology of how the Western working classes acquired consciousness and power. A persistent theme that emerges from these case studies is that class capacity on larger scales arises conjuncturally, as activists reconciled both in practice and in theory different partial demands and interests. In other words, it was precisely at the confluence of struggles (wages and suffrage; neighborhood and factory; industrial and agricultural, and so on)— and sometimes intra-class antagonisms (skilled versus semi-skilled)—that the creative work of organizing became most important and radically transformative. Historical agency, in other words, derived from the capacity to unite and strategically synthesize the entire universe of proletarian grievances and aspirations as presented in specific conjunctures and crises. And, it is necessary to add, to respond successfully to the innovations of employers' offensives and counter-revolutions.

Years ago, Robin Blackburn made the surprising claim that the "real originality of Marx and Engels was in the field of politics, not in economics or philosophy." I would amend this to say "both in politics and economics.'" Chapter 2, "Marx's Lost Theory," influenced by Erica Benner's work on the politics of nationalism in Marx, argues that Marx's requiem for the failed revolution in France (The Eighteenth Brumaire and Class Struggles in France) stands second only to Capital as an intellectual

achievement; moreover, it is one grounded completely in the urgency of revolutionary activism. Marx, so to speak, opens up the engine compartment of contemporary events to reveal what Antonio Labriola would later call the "inner social gearing" of economic interests, as well as the autonomous role of the executive state, in a situation where no class was able to form a political majority or lead the way out of the national crisis. The French essays, heralds of a materialist theory of politics, explore a middle landscape, usually unrecognized by Marx interpreters, where "secondary class struggles" over taxes, credit, and money are typically the immediate organizers of the political field. They are also the relays whereby global economic forces often influence political conflict and differential class capacities. (The theory of hegemony, in other words, starts here, with the underlying-interest structure of politics, which is doubly determined by the relations of production, at least in the long run, and the artful activity of leaders, organizers, and brokers.) In any future revolution, Marx argued, the workers' movement must be adept at addressing all forms of exploitation (such as over-taxation of the peasantry and the credit squeeze on small business) and, in the event of a foreign intervention—which he saw almost as a precondition for proletarian hegemony—to lead resistance in the name of the nation. These essays, finally, signaled a radical innovation: the retrospective "balance-sheet" method of strategic critique at which Lenin and Trotsky would become so masterful.

Chapter 3 focuses on Marx's critic, Kropotkin, who in his scientific persona instigated a great international debate on climate change. The prince, of course, was the most congenial and charming of late-Victorian anarchists, at least as encountered in the parlors of London's middle-class radicals and savants, usually hand in hand with his stunningly beautiful daughter Sophia. But the Okhrana, which kept him perpetually under surveillance, regarded this turncoat noble and former explorer as one of the world's most dangerous revolutionists. His intellectual interests, like those of Marx and Engels, were omnivorous; but whereas Marx admired scientists from afar, Kropotkin was one: an

outstanding physical geographer whose explorations of Manchuria and the Amur watershed rank in importance and daring with those of contemporaries such as John Wesley Powell and Ferdinand Hayden in the American West. Although he wrote frequently for Nature in later years, and his book Mutual Aid brilliantly anticipated the "symbiotic turn" in modern biology, his major scientific work on glacial geology and the recession of the ice sheets (the first installment finished in a dungeon) has never been translated, and has only recently been republished in Russian.

From his fieldwork in Siberia and Scandinavia he made a number of deductions about climate change that were popularized decades later in a 1904 article in the Geographical Journal. The significance of this article, and the chief topic of Chapter 3, is that Kropotkin was the first scientist to identify natural climate change as a major driver of human history. This might not seem terribly original, but in fact it was. In contrast to the current reign of denialism in the White House, educated opinion in the nineteenth century widely embraced the idea that human activity, especially deforestation and industrial pollution, was changing the climate in ways that might threaten agriculture, or even human survival. What was missing until Kropotkin was any observationally grounded case for important cyclical or secular trends in natural climate processes, and evidence that they had shaped history in consequential ways. In his Geographical Journal piece he argued that the ending of the Ice Age was a still ongoing process, and that the resulting effects of progressive desiccation were visible across Eurasia and had produced a series of catastrophic events, including the episodic onslaughts of Asian nomads upon Europe.

Unfortunately, his research became immediately annexed to the debate about a "dying civilization" on Mars, as revealed by the elaborate system of "canals" supposedly observed on the Red Planet. Perceval Lowell, the most zealous proponent of these canals, wrote a book claiming that Mars merely rehearsed the future of the Earth, citing Kropotkin and others on the progressive aridification of Eurasia. But Kropotkin's real Frankenstein monster, shocked to life by the

Geographical Journal debate, was the American geographer and former missionary Ellsworth Huntington, a tireless self-promoter, who reinterpreted linear desiccation as a natural cycle, the famous "Pulse of Asia." Huntington's belief in climatic determination, whether of civilizations' rise and fall, or simply of human moods, soon morphed into a bizarre racial theory of history, poisoning the well for research on historical climates for almost two generations.

When I wrote Chapter 4, "Who Will Build the Ark?," debate about the "Anthropocene," a proposed geological epoch without previous analogue, defined by the biogeochemical impacts of industrial capitalism, was still largely confined to earth science circles. Since then the term has expanded at meme speed to encompass not only these debates but virtually everything else. A quick perusal of recent and forthcoming books under the heading "Anthropocene" reveals titles like World Politics in ...; Learning to Die in ...; Love in ...; Bats in ...; Virtue in ...; Poetry in ...; Hope and Grief in ...; Coral Reefs in...; and so on. The Anthropocene, in other words, has morphed far beyond the original parameters of earth-system processes and stratigraphical markers to become post-modernism's successor in the double sense of a vast and at times meaningless blanket thrown over everything novel and a permit for wild and undisciplined speculations about "post-natural" ontologies. Radical critics have justifiably focused on the false universals conflated in promiscuous discussions of the Anthropocene: "Man as geological agent" (instead of capitalism); "the threat to human survival" (the rich will assuredly survive; the existential threat is to the poor majority); "the human fossil fuel footprint" ("What did you say, kemosabe?"); and so on.

"Ark" is an argument with myself. In the first half, I make the case for pessimism: there is no historical precedent or rational-actor logic that would lead rich countries (or classes) to repay their "ecological debts" to the poor countries that will suffer the greater part of the catastrophic consequences of rich counties' historic emissions. Likewise, the chaos of the Anthropocene is indissolubly linked to the broader civilizational crisis of capitalism. A large portion of the labor-power of the planet, for

example, needs to be devoted to the unmet housing and environmental needs of poor cities and their adaptation to extreme climate events. But global capitalism is no longer a job machine; quite the contrary, the fastest-growing social classes on earth are the unemployed and the informally employed. There is no realistic scenario in which market forces would mobilize this vast reservoir of labor to meet the challenge of the Anthropocene, nor is there any likelihood of adopting the kind of policies that would accommodate the human migrations necessitated by mega-droughts and rising sea levels. That would require a revolution from below of a scope far beyond anything imagined by Marx and Engels.

In the second half of "Ark," I focus on the false choice defined by environmentalists who argue that there is no hope of reconciling a universally high standard of living with the requirements of sustainability. If capitalist urbanization is in so many ways the chief problem, responsible for the majority of emissions, groundwater deficits, and major pollutant flows, I propose the city as its own possible solution. We must transform private into public affluence with a zero carbon footprint. There is no planetary shortage of "carrying capacity" if we are willing to make democratic public space, rather than modular, private consumption, the engine of sustainable equality. We need to ignite our imaginations by rediscovering those extraordinary discussions—and in some cases concrete experiments—in utopian urbanism that shaped socialist and anarchist thinking between the 1880s and the early 1930s. The alter monde that we all believe is the only possible alternative to the new Dark Ages requires us to dream old dreams anew. <>

The Perfect Weapon: War, Sabotage, and Fear in the Cyber Age by David E. Sanger [Crown, 9780451497895]

In 2015, Russian hackers tunneled deep into the computer systems of the Democratic National Committee, and the subsequent leaks of the emails they stole may have changed the course of American democracy. But to see the DNC hacks as Trump-centric is to miss the bigger, more important story: Within that same year, the Russians not only had broken into networks at the White House, the

State Department, and the Joint Chiefs of Staff, but had placed implants in American electrical and nuclear plants that could give them the power to switch off vast swaths of the country. This was the culmination of a decade of escalating digital sabotage among the world's powers, in which Americans became the collateral damage as China, Iran, North Korea, and Russia battled in cyberspace to undercut one another in daily just-short-of-war conflict.

The Perfect Weapon is the startling inside story of how the rise of cyberweapons transformed geopolitics like nothing since the invention of the atomic bomb. Cheap to acquire, easy to deny, and usable for a variety of malicious purposes—from crippling infrastructure to sowing discord and doubt—cyber is now the weapon of choice for democracies, dictators, and terrorists. Two presidents—Bush and Obama—drew first blood with Operation Olympic Games, which used malicious code to blow up Iran's nuclear centrifuges, and yet America proved remarkably unprepared when its own weapons were stolen from its arsenal and, during President Trump's first year, turned back on the US and its allies. The government was often paralyzed, unable to threaten the use of cyberweapons because America was so vulnerable to crippling attacks on its own networks of banks, utilities, and government agencies.

Moving from the White House Situation Room to the dens of Chinese government hackers to the boardrooms of Silicon Valley, New York Times national security correspondent David Sanger—who broke the story of Olympic Games in his previous book—reveals a world coming face-to-face with the perils of technological revolution. The Perfect Weapon is the dramatic story of how great and small powers alike slipped into a new era of constant sabotage, misinformation, and fear, in which everyone is a target.

In The Perfect Weapon, New York Times national security correspondent David Sanger traces the escalation of cyberwarfare, and explores how wars can now be won—or lost—without a shot being fired.

For seventy years, the thinking inside the Pentagon was that only nations with nuclear weapons could threaten America's existence. But that assumption is now in doubt: in a world in which almost everything is interconnected—phones, cars, electrical grids, and satellites—everything can be disrupted, if not destroyed. In [The Perfect Weapon](#), David Sanger vividly details how this new revolution, being conducted largely in secret, is reshaping global power.

"Cyberweapons are so cheap to develop and so easy to hide that they have proven irresistible for large and small powers alike," Sanger writes. "Because such attacks rarely leave smoking ruins, Washington remains befuddled about how to respond. Our adversaries have realized that it's a great way to undercut us without being made to pay any real price for such actions."

A TRUMP-ERA BATTLE OVER PREEMPTIVE CYBER STRIKES:

The Trump Administration is engaged in a behind-the-scenes debate over whether to authorize the NSA and US Cyber Command to wage day-to-day cyberwar without specific presidential authority for each attack, a move that could unleash a new era of cyberwarfare.

Under the new vision of US Cyber Command, it would take the battle to the enemy, looking to destroy malicious code before it is executed. But the strategy, many argue, risks an escalating cyberwar, in which other powers feel freer to do the same to the United States.

IRAN'S OTHER WEAPON-AND AMERICA'S PLAN TO TURN OFF THE LIGHTS IN TEHRAN:

After President Trump's decision to terminate the 2015 Iranian nuclear deal and re¬impose sanctions, the Pentagon and the intelligence agencies are preparing for what they view as an inevitable reaction: the unleashing of Iranian cyberattacks on American financial institutions, the Sands Casino and other targets. That is what happened in 2012 and 2013, and Iran's attacks on Saudi Arabia, including a terrifying move to disable safety systems on a petrochemical plant, may point to what is coming next.

But the US has long had more than Iran's nuclear program in its sights. The Perfect Weapon reveals how the man now in charge of the NSA and Cyber Command, Gen. Paul Nakasone, oversaw Nitro Zeus, a huge, classified US program to prepare for how to turn the lights out in Iran in the case of a broader conflict.

A CONSTANT CYBERWAR WITH NORTH KOREA:

Kim Jong-un and Donald Trump are scheduled to meet to see if they can start down the path of nuclear disarmament. But for the past decade, the two countries have been engaged in a nonstop two-way cyber conflict. The Perfect Weapon reveals how American intelligence agencies got deep inside the North's Reconnaissance General Bureau, and how North Korea escalated the situation with its attacks on Sony, on central banks, and ultimately on the British health-care system, using technology stolen from the NSA.

But the boldest attack of all—and the one in which the results are the murkiest—came after President Obama ordered secret cyber and electronic warfare strikes on North Korea's missile program, forcing Kim Jong-un to change designs. The program continues to this day. So far, cyber is not part of the negotiations with the North—though it is the only weapon Kim has actually used against American targets.

A CYBER BATTLE WITH RUSSIA THAT PRECEDED-AND PREDICTED-THE 2016 ELECTION ATTACKS:

Russia's hack of the DNC was part of a much broader set of Russian cyber operations against the United States, with targets including the State Department, the White House, and the Joint Chiefs of Staff.

The Perfect Weapon takes readers to Ukraine, Russia's testing ground for cyber capabilities, where it has turned off the lights, meddled with elections, and tested out new forms of "hybrid warfare" —and reveals how the United States sent teams to learn about our own vulnerabilities from what happened. It also offers a new understanding of the election hack, and the series of failures on the part of the US government that sped it along.

It describes how Britain's intelligence services tipped off the United States to the Russian theft of DNC material.

It digs into the inexplicable series of missteps by the FBI, which failed to understand the depth or importance of the hack into the DNC until it was too late, and explains how White House aides were split over how to punish Vladimir V. Putin.

For the first time, it explains how the National Security Agency was distracted during the Russia investigation by the discovery that its own best weapons and tools had been lost—and presumed in Russian hands—hampering its ability to respond to the attacks on the election system. The loss was so severe that the Secretary of Defense tried to have the head of the NSA and Cyber Command, Adm. Michael S. Rogers, fired, because he was unable to keep the agency's secrets from Russian hands.

ALSO ON RUSSIA:
The backstory of why the United States closed a Russian facility—after discovering it was being used to drill into American telephone and internes lines. And how America's penchant for over-secrecy around cyber impeded its efforts to warn American users of other Russian intrusions, including into the electric grid and home routers—information that was declassified only weeks ago.

THE LONG-RANGE STRUGGLE WITH CHINA:
Even while the US government was engaging in its public struggles with Huawei and ZTE, the Chinese manufacturing giants, the Pentagon was commissioning a detailed study of the long¬term challenge with Beijing. And as the report circulated through the Trump administration in its first months, it painted a picture of Xi Jinping's long-range plans to dominate artificial intelligence, quantum computing, autonomous vehicles, and other critical technologies by 2025 just seven years away.

Even as the Pentagon set up its own group in Silicon Valley to try to acquire cutting-edge technology for the military, it discovered a shadow program by the Chinese government to do exactly the same thing, including setting up venture capital firms to finance start-ups and circumvent American regulations governing foreign investments in

sensitive American technology. This has given the Chinese an early look at some of the most promising innovations coming out of American start-ups.

The Perfect Weapon also takes readers inside Chinese efforts to build a database on millions of Americans—especially those with security clearances—based on information it stole from the little-known Office of Personnel Management, a loss far greater than anything the Obama administration acknowledged.

ASSESSING THE FUTURE:
At the conclusion of the book, David E. Sanger, who teaches national security strategy at Harvard's Kennedy School of Government, explores how the problem deterring cyberattacks is far more complex than the Cold War effort to deter nuclear weapons. Reaching back over the past century to the lessons from the arming of the airplane, the nuclear arms race, counterterrorism, and the era of drone warfare, Sanger argues that while technology may help, in the end a political solution is needed, akin to the Geneva Conventions, if we are to avoid an era of constantly escalating cyber conflict.

 Excerpt: A year into Donald J. Trump's presidency, his defense secretary, Jim Mattis, sent the new commander-in-chief a startling recommendation: with nations around the world threatening to use cyberweapons to bring down America's power grids, cell-phone networks, and water supplies, Trump should declare he was ready to take extraordinary steps to protect the country. If any nation hit America's critical infrastructure with a devastating strike, even a non-nuclear one, it should be forewarned that the United States might reach for a nuclear weapon in response.

Like most things in Washington, the recommendation leaked immediately. Many declared it a crazy idea, and wild overkill. While nations had turned their cyberweapons against each other dozens of times in recent years, no attack had yet been proven to cost a human life, at least directly. Not the American attacks on Iran's and North Korea's weapons programs; not the North Korean attacks on American banks, a famed Hollywood studio, and the British healthcare system; not the Russian

attacks on Ukraine, Europe, and then the core of American democracy. That streak of luck was certain to end soon. But why would Donald Trump, or any of his successors, take the huge risk of escalating a cyberwar by going nuclear?

The Pentagons recommendation, it turned out, was the... prelude to other proposals—delivered to a president who values toughness and "America First"—to use the nation's powerful cyberweapons far more aggressively. But it was also a reminder of how quickly the fear of devastating cyberattacks has moved from the stuff of science fiction and Die Hard movies to the center of American defense strategy. Just over a decade before, in 2007, cyberattacks were missing entirely from the global "Threat Assessment" that intelligence agencies prepare each year for Congress. Terrorism topped that list, along with other post-9/11 concerns. Now that hierarchy has been reversed: For several years a variety of cyber threats, ranging from a paralyzing strike on the nation's cities to a sophisticated effort to undercut public confidence in its institutions, has appeared as the number one threat on the list. Not since the Soviets tested the Bomb in 1949 had the perception of threats facing the nation been revised so quickly. Yet Mattis, who had risen to four-star status in a career focused on the Middle East, feared that the two decades spent chasing al Qaeda and ISIS around the globe had distracted America from its most potent challenges.

"Great power competition—not terrorism—is now the primary focus of US national security," he said in early 2018. America's "competitive edge has eroded in every domain of warfare," including the newest one, "cyberspace." The nuclear strategy he handed Trump gave voice to an inchoate fear among many in the Pentagon that cyberattacks posed a threat unlike any other, and one we had completely failed to deter. The irony is that the United States remains the world's stealthiest, most skillful cyberpower, as the Iranians discovered when their centrifuges spun out of control and the North Koreans suspected as their missiles fell out of the sky. But the gap is closing. Cyberweapons are so cheap to develop and so easy to hide that they have proven irresistible. And American officials are discovering that in a world in which almost

everything is connected—phones, cars, electrical grids, and satellites—everything can be disrupted, if not destroyed. For seventy years, the thinking inside the Pentagon was that only nations with nuclear weapons could tnreaten America's existence. Now that assumptions is in doubt.

In almost every classified Pentagon scenario for how a future confrontation with Russia and China, even Iran and North Korea, might play out, the adversary's first strike against the United States would include a cyber barrage aimed at civilians. It would fry power grids, stop trains, silence cell phones, and overwhelm the Internet. In the worst-case scenarios, food and water would begin to run out; hospitals would turn people away. Separated from their electronics, and thus their connections, Americans would panic, or turn against one another.

The Pentagon is now planning for this scenario because it knows many of its own war plans open with similarly paralyzing cyberattacks against our adversaries, reflecting new strategies to try to win wars before a shot is fired. Glimpses of what this would look like have leaked out in recent years, partly thanks to Edward J. Snowden, partly because a mysterious group called the Shadow Brokers—suspected of close links to Russian intelligence—obtained terabytes of data containing many of the "tools" that the National Security Agency used to breach foreign computer networks. It didn't take long for some of those stolen cyberweapons to be shot back at America and its allies, in attacks whose bizarre-sounding names, like WannaCry, suddenly appeared in the headlines every week.

Yet the secrecy surrounding these programs obscures most public debate about the wisdom of using them, or the risks inherent in losing control of them. The government's silence about America's new arsenal, and its implications, poses a sharp contrast to the first decades of the nuclear era. The horrific scenes of destruction at Hiroshima and Nagasaki not only seared the national psyche, but they made America's destructive capabilities—and soon Russia's and China's—obvious and undeniable. Yet even while the government kept the details classified—how to build atomic weapons, where they are stored, and who has the authority to order

their launch—America engaged in a decades-long political debate about when to threaten to use the Bomb and whether to ban it. Those arguments ended up in a very different place from where they began: in the 1950s the United States talked casually about dropping atomic weapons to end the Korean War; by the eighties there was a national consensus that the US would reach for nuclear weapons only if our national survival was at stake.

So far, there has been no equivalent debate about using cyberweapons, even as their destructive power becomes more evident each year. The weapons remain invisible, the attacks deniable, the results uncertain. Naturally secretive, intelligence officials and their military counterparts refuse to discuss the scope of America's cyber capabilities for fear of diminishing whatever narrow advantage the country retains over its adversaries.

The result is that the United States makes use of this incredibly powerful new weapon largely in secret, on a case-by-case basis, before we fully understand its consequences. Acts that the United States calls "cyber network exploitations" when conducted by American forces are often called "cyberattacks" when American citizens are the target. That word has come to encompass everything from disabling the grid, to manipulating an election, to worrying about that letter arriving in the mail warning that someone—maybe criminals, maybe the Chinese—just grabbed our credit cards, Social Security numbers, and medical histories, for the second or third time.

During the Cold War, national leaders understood that nuclear weapons had fundamentally changed the dynamics of national security, even if they disagreed on how to respond to the threat. Yet in the age of digital conflict, few have a handle on how this new revolution is reshaping global power. During his raucous 2016 presidential campaign, Trump told me in an interview that America was "so obsolete in cyber," ignoring, if he was aware of it, that the United States and Israel had deployed the most sophisticated cyberweapon in history against Iran. More concerning was the fact that he showed little understanding of the dynamics of the grinding, daily cyber conflict now under way—the short-of-war attacks that have become the new normal. His

refusal to acknowledge Russia's pernicious role in the 2016 election, for fear it would undercut his political legitimacy, only exacerbates the problem of formulating a national strategy. But the problem goes far beyond the Trump White House. After a decade of hearings in Congress, there is still little agreement on whether and when cyberstrikes constitute an act of war, an act of terrorism, mere espionage, or cyber-enabled vandalism. Technological change wildly outpaces the ability of politicians—and the citizens who have become the collateral damage in the daily combat of cyberspace—to understand what was happening, much less to devise a national response. Making matters worse, when Russia used social media to increase America's polarization in the 2016 election, the animus between tech companies and the US government—ignited by Snowden's disclosures four years earlier—only deepened. Silicon Valley and Washington are now the equivalent of a divorced couple living on opposite coasts, exchanging snippy text messages.

Trump accepted Mattis's nuclear recommendation without a moment of debate. Meanwhile the Pentagon, sensing Trump's willingness to demonstrate overwhelming American force in cyberspace as in other military arenas, published a new strategy, envisioning an era of constant, low-level cyber conflict in which America's newly minted cyber warriors would go deep behind enemy lines every day, attacking foreign computer servers before threats to the United States could materialize. The idea was classic preemption, updated for the cyber age, to "stop attacks before they penetrate our cyber defenses or impair our military forces." Other proposals suggested the president should no longer have to approve every cyber strike—any more than he would have to approve every drone strike.

In the chaos of the Trump White House, it was unclear how these weapons would be used, or under what rules. But suddenly we are in new territory.

Cyber conflict remains in the gray area between war and peace, an uneasy equilibrium that often seems on the brink of spinning out of control. As the pace of attacks rises, our vulnerability becomes more apparent each day: in the opening months of

2018, the federal government warned utilities that Russian hackers had put "implants" of malware in the nation's nuclear plants and power grid and then, a few weeks later, added that they were infesting the routers that control the networks of small enterprises and even individual homes. In previous years there has been similar evidence about Iranian hackers inside financial institutions and Chinese hackers siphoning off millions of files detailing the most intimate details of the lives of Americans seeking security clearances. But figuring out a proportionate yet effective response has now stymied three American presidents. The problem is made harder by the fact that America's offensive cyber prowess has so outpaced our defense that officials hesitate to strike back.

"That was our problem with the Russians," James Clapper, President Obama's director of national intelligence, told me one winter afternoon at a diner down the road from the CIA headquarters in McLean, Virginia. There were plenty of ideas about how to get back at Putin: unplug Russia from the world's financial system; reveal Putin's links to the oligarchs; make some of his own money—and there was plenty hidden around the world—disappear.

Yet, Clapper noted, "every time someone proposed a way to strike back at Putin for what he was doing in the election, someone else would come back and say, 'What happens next? What if he gets into the voting system?'"

Clapper's question drives to the heart of one of the cyberpower conundrums. The United States can't figure out how to counter Russian attacks without incurring a great risk of escalation. The problem can be paralyzing. Russia's meddling in the election encapsulates the challenge of dealing with this new form of short-of-war aggression. Large and small powers have gradually discovered what a perfect digital weapon looks like. It is as stealthy as it is effective. It leaves opponents uncertain about where the attack came from, and thus where to fire back. And we struggle to figure out the best form of deterrence. Is it better to threaten an overwhelming counterstrike? A non-cyber response, from economic sanctions to using a nuclear weapon? Or to so harden our defenses—a project that would take decades—that enemies give up attacking?

Naturally, the first temptation of Washington policy makers is to compare the problem to something more familiar: defending the country against nuclear weapons. But the nuclear comparison is faulty, and as the cyber expert James Lewis has pointed out, the false analogy has kept us from accurately understanding how cyber plays into the daily geopolitical conflict.

Nuclear arms were designed solely for fighting and winning an overwhelming victory. "Mutually assured destruction" deterred nuclear exchanges because both sides understood they could be utterly destroyed. Cyberweapons, in contrast, come in many subtle shades, ranging from the highly destructive to the psychologically manipulative.

Until recently, Americans were fixated on the most destructive class of cyberweapons, the ones that could turn off a nation's power or interfere with its nuclear command-and-control systems. That is a risk, but the extreme scenario, and perhaps the easier to defend against. Far more common is the daily use of cyberweapons against civilian targets to achieve a more specific mission—neutralizing a petrochemical plant in Saudi Arabia, melting down a steel mill in Germany, paralyzing a city government's computer systems in Atlanta or Kiev, or threatening to manipulate the outcome of elections in the United States, France, or Germany. Such "dialed down" cyberweapons are now used by nations every day, not to destroy an adversary but rather to frustrate it, slow it, undermine its institutions, and leave its citizens angry or confused. And the weapons are almost always employed just below the threshold that would lead to retaliation.

Rob Joyce, Trump's cyber czar for the first fifteen months of the administration and the first occupant of that office to have once run American offensive cyber operations, described in late 2017 why the United States is particularly vulnerable to these kinds of operations, and why our vulnerabilities won't go away anytime soon.

"So much of the fabric of our society rests on the bedrock of our IT," said Joyce, who spent years running the Tailored Access Operations unit of the NSA, the elite operation charged with breaking into foreign computer networks. "We continue to digitize things; we store our wealth and treasure

there; we run operations; we keep our secrets all in that cyber domain." In short, we are inventing new vulnerabilities faster than we are eliminating old ones.

Rarely in human history has a new weapon been adapted with such speed, customized to fit so many different tasks, and exploited by so many nations to reshape their influence on global events without turning to outright war. Among the fastest adapters has been Putin's Russia, which deserves credit as a master of the art form, though it is not the only practitioner. Moscow has shown the world how hybrid war works. The strategy is hardly a state secret: Valery Gerasimov, a Russian general, described the strategy in public, and then helped implement it in Ukraine, the country that has become a test-bed for techniques Russia later used against the United States and its allies. The Gerasimov doctrine combines old and new: Stalinist propaganda, magnified by the power of Twitter and Facebook, and backed up by brute force.

As the story told in this book makes clear, parts of the US government—and many other governments—saw all the signs that our chief adversaries were headed toward a new vector of attack. Yet the United States was remarkably slow to adapt to the new reality. We knew what the Russians had done in Estonia and Georgia a decade ago, the first time they used cyberattacks to help paralyze or confuse an opponent, and we saw what they later attempted from Ukraine to Europe, the testing grounds for cyberweapons of mass disruption and subtle influence. But an absence of imagination kept us from believing that the Russians would dare to leap the Atlantic and apply those same techniques to an election in the United States. And, like the Ukranians, we took months, even years, to figure out what hit us.

Worse yet, once we began to grasp what happened, a military and intelligence community that prides itself on planning for every contingency had no playbook of ready responses. In early 2018, when asked by the Senate Armed Services Committee how the National Security Agency and US Cyber Command were dealing with the most naked use of cyberpower against American democratic institutions, Adm. Michael S. Rogers, then coming to the end of his term as commander of

both organizations, admitted that neither President Obama nor President Trump had given him the authority to respond.

Putin, Rogers said, "has clearly come to the conclusion that there's little price to pay here and that therefore `I can continue this activity.'" Russia was not alone in reaching this conclusion. Indeed, many adversaries used cyberweapons precisely because they believed them to be a way of undercutting the United States without triggering a direct military response. North Korea paid little price for attacking Sony or robbing central banks. China paid no price for stealing the most private personal details of about 21 million Americans.

The message to our adversaries around the world is clear: cyberweapons, in all their various forms, are uniquely designed to hit America's softest targets. And because they rarely leave smoking ruins, Washington remains befuddled about how to answer all but the biggest and most blatant attacks.

Rogers told me as he began the job in 2014 that his number-one priority was to "establish some cost" for using cyberweapons against America. "If we don't change the dynamic here," he added, "this is going to continue." He left office, in 2018, with the nation facing a far larger problem than when he began.

In late July 1909, Wilbur and Orville Wright arrived in Washington to show off their Military Flyer. In the grainy pictures that have survived, Washington's swamp creatures streamed across the bridges spanning the Potomac to see the show; even President William Howard Taft got into the act, though the Wright brothers were not about to take the risk of giving him a ride.

Not surprisingly, the army was fascinated by the potential of this wild invention. Generals imagined flying the craft over enemy lines, outflanking an oncoming force, and then sending the cavalry off to dispense with them. It wasn't until three years later, in 1912, that someone thought of arming one of the new "observation aircraft" with a machine gun. Things both ramped up and spiraled down from there. A technology first imagined as a revolutionary means of transportation revolutionized war overnight. In 1913 there were

fourteen military airplanes manufactured in the United States; five years later, with World War I raging, there were fourteen thousand.

And they were being used in ways the Wrights never imagined. The Red Baron shot down his first French aircraft in April 1916, over Verdun. Dogfights became monthly, then weekly, then daily events. By World War II, Japanese Zeros were bombing Pearl Harbor and performing kamikaze raids on my father's destroyer in the Pacific. (They missed, twice.) Thirty-six years after Orville's first flights in front of President Taft, the Enola Gay banked over Hiroshima and changed the face of warfare forever, combining the reach of airpower and the destructive force of the world's newest ultimate weapon.

In the cyber world today, we are somewhere around World War I. A decade ago there were three or four nations with effective cyber forces; now there are more than thirty. The production curve of weapons produced over the past ten years roughly follows the trajectory of military aircraft. The new weapon has been fired, many times, even if its effects are disputed. As of this writing, in early 2018, the best estimates suggest there have been upward of two hundred known state-on-state cyberattacks over the past decade or so—a figure that describes only those that have become public.

And, as in World War I, this glimpse into the future has led nations to arm up, fast. The United States was among the first, building "Cyber Mission Forces," as they call them-133 teams, totaling more than 6,000 troops, were up and running by the end of 2017. While this book deals largely with the "Seven Sisters" of cyber conflict—the United States, Russia, China, Britain, Iran, Israel, and North Korea—nations from Vietnam to Mexico are emulating the effort. Many have started at home by testing their cyber capabilities against dissidents and political challengers. But no modern military can live without cyber capabilities, just as no nation could imagine, after 1918, living without airpower. And now, as then, it is impossible to imagine fully how dramatically this invention will alter the exercise of national power.

In 1957, with the world on the nuclear precipice, a young Harvard scholar named Henry Kissinger wrote Nuclear Weapons and Foreign Policy. The book was an effort to explain to an anxious American public how the first use, a dozen years before, of a powerful new weapon whose implications we barely understood was fundamentally reordering power around the world.

One doesn't have to endorse Kissinger's conclusions in that book—especially his suggestion that the United States could fight and survive a limited nuclear war—to admire his understanding that after the invention of the Bomb, nothing could ever be the same. "A revolution cannot be mastered until it is understood," he wrote. "The temptation is always to seek to integrate it into familiar doctrine: to deny a revolution is taking place." It was time, he said, "to attempt an assessment of the technological revolution which we have witnessed in the past decade" and to understand how it affected everything we once thought we understood. The Cuban Missile Crisis erupted only five years later, the closest the world came in the Cold War to annihilation by miscalculation. That crisis was followed by the first efforts to control the spread of nuclear weapons before they dictated our fate.

While most nuclear analogies do not translate well to the new world of cyber conflict, this one does: We all live in a state of fear of how our digital dependencies can be hijacked by nations that in the past decade have discovered a new way to pursue old struggles. We have learned that cyberweapons, like nuclear weapons, are a great leveler.

And we worry, with good reason, that within just a few years these weapons, merged with artificial intelligence, will act with such hyperspeed that escalatory attacks will take place before humans have the time—or good sense—to intervene. We keep digging for new technological solutions—bigger firewalls, better passwords, better detection systems—to build the equivalent of France's Maginot Line. Adversaries do what Germany did: they keep finding ways around the wall.

Great powers and once-great powers, like China and Russia, are already thinking forward to a new

era in which such walls pose no obstacle and cyber is used to win conflicts before they appear to start. They look at quantum computers and see a technology that could break any form of encryption and perhaps get into the command-and-control systems of America's nuclear arsenal. They look at bots that could not only replicate real people on Twitter but paralyze early-warning satellites. From the NSA headquarters at Fort Meade to the national laboratories that once created the atomic bomb, American scientists and engineers are struggling to maintain a lead. The challenge is to think about how to defend a civilian infrastructure that the United States government does not control, and private networks where companies and American citizens often don't want their government lurking—even for the purpose of defending them.

What's missing in these debates, at least so far, is any serious effort to design a geopolitical solution in addition to a technological one. In my national security reporting for the New York Times, I've often been struck by the absence of the kind of grand strategic debates surrounding cyber that dominated the first nuclear age. Partly that is because there are so many more players than there were during the Cold War. Partly it is because the United States is so politically divided. Partly it is because cyberweapons were created by the US intelligence apparatus, instinctively secretive institutions that always err on the side of over-classification and often argue that public discussion of how we might want to use or control these weapons imperils their utility.

Some of that secrecy is understandable. Vulnerabilities in computers and networks—the kind that allowed the United States to slow Iran's nuclear progress, peer inside North Korea, and trace Russia's role in the 2016 election—are fleeting. But there is a price for secrecy, and the United States has begun to pay that price. It is impossible to begin to negotiate norms of behavior in cyberspace until we too are willing to declare our capabilities and live within some limits. The United States, for example, would never support rules that banned cyber espionage. But it has also resisted rules prohibiting the placement of "implants" in foreign computer networks, which we also use in case the United States needs a way to

bring those networks down. Yet we are horrified when we find Russian or Chinese implants in our power grid or our cell-phone systems.

"The key issue, in my opinion," says Jack Goldsmith, a Harvard law professor who served in George W. Bush's Justice Department, "is the US government's failure to look in the mirror."

On a summer day in 2017, I went to Connecticut to see Kissinger, who was then ninety-four, and asked him how this new age compared to what he grappled with in the Cold War. "It is far more complex," he said. "And over the long-term, it may be far more dangerous."

This book tells the story of how that complexity and danger are already reshaping our world, and explores whether we can remain masters of our own invention. <>

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