SURVEILLANCE

FROM VISION TO DATA

When people think about surveillance, cameras and the watchers behind them often come to mind. But surveillance involves much more than being watched. It has also depended on data: information that is gathered, interpreted, and used.

Enter here to look beyond cameras. Focus on data and the instruments used to produce it throughout history. See how powerful entities, from colonial empires to United States intelligence agencies, have transformed people and visual space into data. Learn how surveillance data have been wielded to create and uphold—and sometimes to challenge—social hierarchies. Engage with critical artworks that explore how surveillance through data might be reimagined, reappropriated, or resisted.

To be surveilled is to be made visible. Shifting the focus away from cameras and towards data reveals an often hidden—and now pervasive—form of visibility.

Measurement of Left Middle Finger, ca. 1893

In the 1880s, French police clerk Alphonse Bertillon (1853-1914) developed a standardized system for identifying criminal recidivists by classifying their bodily data. His system quickly spread across Europe and the United States. In France during the early 20th century, Bertillon's methods were extended to xenophobic and discriminatory legislation around immigration, criminality, and race.

Courtesy of the Metropolitan Museum of Art, The Horace W. Goldsmith Foundation Fund, through Joyce and Robert Menschel, 2016

Facial Recognition by Machine; Experiments by Panoramic Research, Inc., 1965–1968

Public Domain; from the Woodrow “Woody” W. Bledsoe Papers, The Dolph Briscoe Center for American History, The University of Texas at Austin

CHSI Surveillance ID Label 5 x 3 6mm Komatex

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DATA

AN OFTEN HIDDEN SCIENTIFIC PROCESS

Data are all around us in the form of measurements, numbers, and other bits of information. There is an enduring mythology that such data are merely neutral facts. This suggests that, paralleling the etymological roots of the word, data are simply “given” things. But what becomes data—and why—matters. In the 1920s, with antisemitism on the rise in the United States, Harvard President A. Lawrence Lowell spurred the creation of a new form of data: a tally of the number of Jewish students attending Harvard College. A Harvard committee classified each student based on their perceived likelihood of being Jewish. These tallies were ultimately used to limit Jewish enrollment. Data do not just represent the world—they act in it.

Measuring Students, ca. 1900

In the early 1900s, agricultural school administrators tracked the bodily measurements, grades, and health of Jewish immigrant youth fleeing persecution in Eastern Europe. Recorded on simple cards, this data facilitated their transformation into productive laborers.

Unidentified Artist, *Races, Jews: United States. New Jersey. Woodbine. Baron de Hirsch Agricultural and Industrial School: Woodbine Settlement and School, Woodbine, N.J. Baron de Hirsch Fund.: Exhibit IV. Records of the Pupils of the Agricultural School.* Harvard Art Museums/Fogg Museum, Transfer from the Carpenter Center for the Visual Arts, Social Museum Collection, Photo © President and Fellows of Harvard College, 3.2002.3566

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Punched Card Reader Used by Harvard Registrar to Process Student Enrollment Data, ca. 1976

Digital Equipment Corporation,
Maynard, United States

Collection of Historical Scientific Instruments,
Harvard University #1998-1-0600

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Stack of Punched Cards for Punch Card Reader, ca. 1976

Digital Equipment Corporation, Maynard, United States

Collection of Historical Scientific Instruments, Harvard University #1998-1-0600a

CHSI Surveillance ID Label 5 x 3 6mm Komatex

Interactive Guest Book

The way you type might say more about you than *what* you type. Online marketers and other motivated parties can detect unique patterns in your typing style—a digital fingerprint that points back to *you*. This interactive guestbook deploys visual artist Jonathan Zong's "biometric sans," a responsive typeface tailored to your own typing idiosyncrasies. So go ahead and sign your name—or let your typing sign for you.

Biometric Sans, by Jonathan Zong, 2023

CHSI Surveillance Story Label 8 x 8 6mm Komatex

THE INSTRUMENTS

OF SURVEILLANCE

Whether being used to survey land or to measure bodies, surveillance instruments collect, store, or process data. How these instruments function, in turn, shapes the form surveillance data takes. As such, surveillance instruments are far from neutral. History reveals how seemingly benign scientific instruments are implicated in some of the most pernicious legacies of surveillance through data. From compasses to calipers, surveillance instruments are tied directly to the violent practices of colonial power and to the production of social hierarchies.

Surveyor’s Plain Compass, ca. 1817

Thomas Whitney, Philadelphia, United States

Collection of Historical Scientific Instruments, Harvard University #5207

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Vernier Calipers, ca. 19th–20th c.

Peabody Museum of Archaeology and Ethnology, Harvard University #2017.0.33

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TRANSFORMING SPACE
INTO DATA

To surveil, to oversee, requires a view from on high. Powerful entities have moved and condensed space and have even made it virtual in pursuit of this goal. In the 17th century, early surveying instruments helped plantation overseers measure and shape space, furthering the objectives of colonial expansion and the enslavement of people. Later, camera-equipped wartime reconnaissance planes enabled space to be captured and transported in the form of photographs ready for an intelligence analyst's gaze. With computers, the high view became conceptual. Intelligence agencies use software to correlate the data of daily life, from phone calls and internet searches to locations traveled. With a mouse click, they can traverse the globe, tracking a "person of interest" by the cell phone in their pocket.

The Overseer, ca. 1667

Found in a 1667 book written by a missionary, an overseer is pictured as surveilling both enslaved people cultivating indigo and the carefully parcelled-off land of a plantation in the French Antilles.

Slave plantation overseer engraving from Jean Baptiste Du Tertre, *Histoire Generale des Antilles habitées par les François* (1667-1671), Volume 2. Courtesy of Houghton Library

Worldwide Oversight, ca. 2008

Locations of computer sites and servers used in the National Security Agency's X-KEYSCORE program. In the words of the NSA, this data-retrieval system searches "nearly everything a typical user does on the internet," from siphoned emails to browsing traffic.

2013 Global Surveillance Disclosures, Public Domain

COLONIAL SURVEYING

INSTRUMENTS

English speakers began using the term "surveillance" at the onset of the 19th century, but the practice existed long before then. Some scholars identify the intensification of surveillance in its data-oriented form with the techniques and technologies deployed by European colonists to "oversee" plantations in the 17th century. The use of early surveying tools was foundational to colonialism. The tools were used to measure, parcel off, and transform land. The tools also enabled commanding vantage points from which overseers could surveil enslaved people's bodies and labor.

CHSI Surveillance Thematic Label 10 x 14 6mm Komatex

Slave Plantation Overseer Engraving

From *Jean Baptiste Du Tertre, Histoire Generale des Antilles habitées par les François* (1667–1671), Volume 2.

Houghton Library #4001007

CHSI Surveillance ID Label 5 x 3 6mm Komatex

Half-length Gunter's Chain for Measuring Horizontal Distance, ca. 1810

United States

Collection of Historical Scientific Instruments, Harvard University #DW0796

CHSI Surveillance ID Label 5 x 3 6mm Komatex

Simple Theodolite with Telescopic Sights for Measuring Horizontal Angles, ca. 1790–1820

Jean-François Richer, Paris, France

Collection of Historical Scientific Instruments, Harvard University #DW0275

CHSI Surveillance ID Label 5 x 3 6mm Komatex

WARTIME

RECONNAISSANCE

Powerful nations continued to transform space into data throughout the 20th century, often through aerial reconnaissance programs. In 1922, the Fairchild Corporation constructed a camera for the United States War Department to “map all possible theatres of operation without delay.” Such cameras relied on a wide range of seemingly innocuous instruments for capturing, storing, and processing photographic data. Yet this technology remained in the shadow of colonial logics of surveillance: to survey, to extract, to control.

Capturing Reconnaissance Data

A large body of scientific work has studied how to better capture surveillance photographs. In 1944, Harvard scientists used an early computer to optimize the resolution of lenses designed for United States military and intelligence agencies, replacing tedious calculations done by hand. Into the 1970s, United States military camera operators were issued slide rulers to quickly compute the optimal resolution and speed of camera exposures taken from above, ensuring the clarity and precision of photographic data.

CHSI Surveillance Story Label 8 x 8 6mm Komatex

Fairchild T-3A Five-Lens Air Corps Aerial Camera for “the preparation of line drawn maps and for purposes of military reconnaissance and intelligence,” ca. 1930–1936

Fairchild Aerial Camera Corporation, New York, United States

Collection of Historical Scientific Instruments, Harvard University #RS0385b

CHSI Surveillance ID Label 5 x 4 6mm Komatex

Roll of Punched Paper Tape Used to Program the Harvard Mark I Computer for Camera Lens Optimization Calculations, ca. 1940–1945

James G. Baker (1914–2005),
Cambridge, United States

Collection of Historical Scientific Instruments,
Harvard University #2014-1-000

CHSI Surveillance ID Label 5 x 4 6mm Komatex

Aerial Photography Slide Rule, ca. 1951

Pickett & Eckel, Inc., United States Air Force, Chicago, United States

Collection of Historical Scientific Instruments, Harvard University #2004-1-0341

CHSI Surveillance ID Label 5 x 3 6mm Komatex

Storing Reconnaissance Data

Surveillance data must be stored prior to its analysis. Engineers at the Fairchild Corporation in the 1930s developed a printer for the United States military that created a composite of five simultaneously taken photographs. This capability—foremost intended for war—was soon used domestically. In 1933, a geological survey used the printer to map the entire state of Massachusetts with around 800 data-rich composite photographs.

CHSI Surveillance Story Label 8 x 8 6mm Komatex

Fairchild T-3A Aerial Composite Photograph of Cambridge, MA, ca. 1930–1939

Institute of Geographical Exploration, United States Army Air Forces, Fairchild Aerial Camera Corporation, Eastman Kodak Company, Cambridge, United States

Collection of Historical Scientific Instruments, Harvard University #RS1510

CHSI Surveillance ID Label 5 x 4 6mm Komatex

Fairchild T-3A Aerial Composite Photograph of Unidentified Area, with Markings by Students Learning the Art of Aerial Reconnaissance and Mapping, ca. 1930–1939

Institute of Geographical Exploration, United States Army Air Forces, Fairchild Aerial Camera Corporation, Eastman Kodak Company, Cambridge, United States

Collection of Historical Scientific Instruments, Harvard University #RS1532

CHSI Surveillance ID Label 5 x 5 6mm Komatex

Fairchild Film Magazines and Accessories, ca. 1930–1936

Fairchild Aerial Camera Corporation, Fairchild Aviation Corporation, United States Army Air Forces, Institute of Geographical Exploration, New York, United States

Collection of Historical Scientific Instruments, Harvard University #RS0385H

CHSI Surveillance ID Label 5 x 4 6mm Komatex

Processing Reconnaissance Data

Data accumulates. Over the 1960s, United States intelligence analysts increasingly spoke of an “information explosion,” due to advances in aerial and satellite photography. Internally, analysts began noting that they had “miles of photographic film only superficially examined.” United States military and intelligence agencies soon funded computational pattern recognition techniques to automatically process this data, supplementing manual photo-inspection techniques.

CHSI Surveillance Story Label 8 x 8 6mm Komatex

Aerial Photographs Used in Experiments to Automate Aerial Photo-Interpretation, ca. 1963

Public Domain

CHSI Surveillance ID Label 5 x 3 6mm Komatex

Diagram for Automating Aerial Photo-Interpretation with Pattern Recognition Techniques, ca. 1963

Public Domain

CHSI Surveillance ID Label 5 x 3 6mm Komatex

Ryker M-11 Reflecting Stereoscope for Inspecting Aerial Photographs, ca. 1944

Harrison C. Ryker Inc., Berkeley, United States

Collection of Historical Scientific Instruments, Harvard University #RS0385d

CHSI Surveillance ID Label 5 x 3 6mm Komatex

GLOBAL DIGITAL SURVEILLANCE

By the turn of the millennium, intelligence agencies were able to “passively collect” all sorts of personal data, often unwittingly produced by their targets’ devices. Information leaked by whistleblowers provided a glimpse into the software of the National Security Agency and its international allies. One of the most powerful tools could associate data gathered worldwide with geographical locations, enabling Western intelligence agencies to “map the entire Internet— any device, anywhere, all the time.”

CHSI Surveillance Thematic Label 10 x 14 6mm Komatex

Worldwide Data Collection Locations, National Security Agency, ca. 2012

2013 Global Surveillance Disclosures, Public Domain

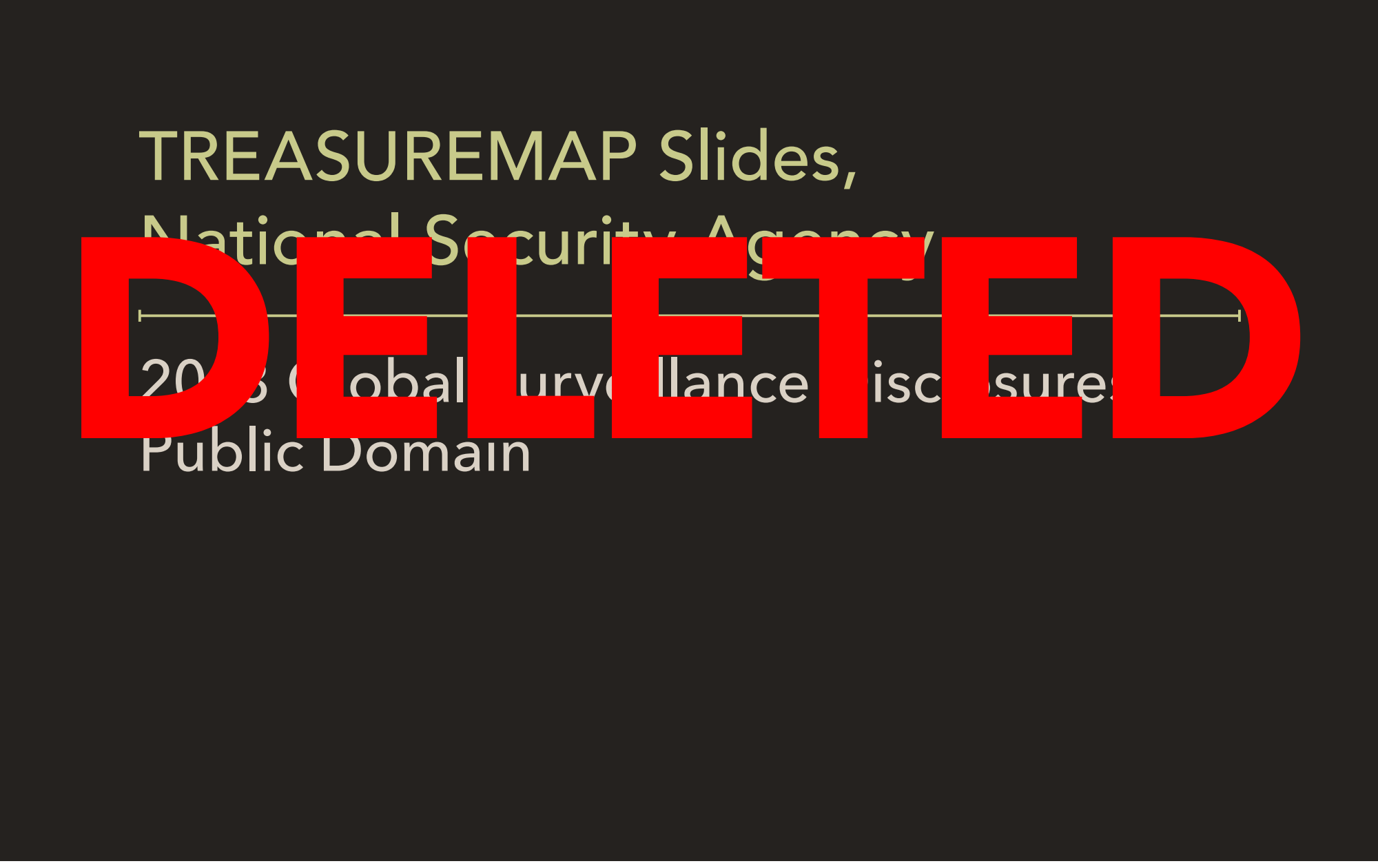
CHSI Surveillance ID Label 5 x 3 6mm Komatex

TREASUREMAP Slides

Gleaned from a leaked trove of NSA internal documents, these PowerPoint slides present a “TREASUREMAP”—a Google Earth-like software for tracking targeted persons in near real-time, using data collected by the NSA and allies from the communications sites they still control around the world.

2013 Global Surveillance Disclosures, Public Domain

CHSI Surveillance Story Label 8 x 8 6mm Komatex



CHSI Surveillance ID Label 5 x 3 6mm Komatex

TRANSFORMING PEOPLE
INTO DATA

Bodies and faces, behaviors and habits–the observable fragments of life have become the data of surveillance. Over and again, surveillance has been wielded by scientists, states, and corporations to force particular groups of people into visibility, especially along lines of race, class, and gender. With 19th century anthropometric instruments that measured bodies, 20th century machines that recognized faces, and 21st century computational models that predict behavior, people have been transformed into data in varied ways. How this surveillance occurs and who it is directed towards alert us to new forms of control. Amidst these shifting power relations one thing has remained persistent: the aspiration to settle questions of identity with biological data.

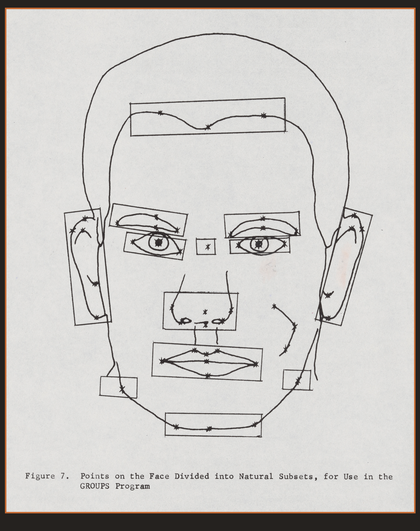


Figure 7. Points on the Face Divided into Natural Subsets, for Use in the GROUPS Program

Facial Recognition by Machine

Facial feature classification technique used by Panoramic Research, Inc., in CIA-sponsored facial recognition experiments. ca. 1964.

Woodrow "Woody" W. Bledsoe Papers, camh-dob-017280, The Dolph Briscoe Center for American History, The University of Texas at Austin

MEASURED

BODIES

The measurement of the human body has supported varied scientific and political projects focused on questions of race.

For centuries, scientists across many disciplines have turned to bodily data to both justify and challenge racial hierarchies. In the early 20th century, a cohort of scientists trained by anthropologist Franz Boas (1858-1942) began using bodily measurements to refute racial typologies based in biology. Instead, they highlighted the historical, geographic, and cultural aspects of human difference. In the 1960s, bodily measurements taken by anthropologists took on a new meaning as CIA-funded scientists working on facial recognition sought to use bodily data to teach computers "to 'learn' to give racial information in response to an input of measurements." In this way, attempts to find a biological basis for race continued with new tools—effectively re-asserting the fraught premise that race can be reduced to biology.

Instructions for Measuring Bodies, ca. 1893

For the 1893 World's Columbian Exposition in Chicago, anthropologists collected data on the bodies of around 17,000 Indigenous people in North America. The anthropologists—Franz Boas among them—aimed to legitimize their methods for studying "the anatomy of races," inviting Exposition visitors to have their own measurements taken. Boas later used this bodily data to challenge then-dominant biological theories of race.

Peabody Museum of Archaeology and Ethnology, Harvard University #38-22-00/1.9.1.1.1; #38-22-00/1.9.1.1.3

CHSI Surveillance ID Label 5 x 6 6mm Komatex

Proposal to Recognize Race from Facial Structure Using Computers, ca. 1965

This letter from Woodrow "Woody" Wilson Bledsoe to the Advanced Research Projects Agency (ARPA) pitches a project to recognize race by applying pattern recognition techniques to data collected by anthropologists. With new instruments, Bledsoe reinvigorated efforts to use bodily measurements to reveal "racial types." Approaches like this have naturalized socially–and politically-situated racial categories as based in biology–rather than as actively produced by scientific projects, like Bledsoe's own.

Woodrow "Woody" W. Bledsoe Papers, camh-dob-017279, The Dolph Briscoe Center for American History, The University of Texas at Austin

CHSI Surveillance ID Label 5 x 6 6mm Komatex

Measuring the Body

The measurement of bodies is a practice tied to what scholar Simone Browne terms “racializing surveillance”: “when enactments of surveillance reify boundaries along racial lines, thereby reifying race, and where the outcome of this is often discriminatory and violent treatment.” From craniometers to skin color charts, scientists have used instruments to produce data that justifies and entrenches existing social orders.

CHSI Surveillance Story Label 8 x 8 6mm Komatex

Identification through Classification, ca. 1909

In Alphonse Bertillon's criminal identification system, subjects were classified based on a series of bodily measurements recorded onto cards. Filed according to the numbers they contained, the cards also included verbal descriptions, notes on distinctive characteristics, and facial photographs.

Courtesy of the Metropolitan Museum of Art, The Horace W. Goldsmith Foundation Fund, through Joyce and Robert Menschel, 2016

CHSI Surveillance ID Label 5 x 5 6mm Komatex

Bertillon System in Action, ca. 1903

J. H. Adams, *Races, Immigration: United States. New York. New York City. Immigrant Station: Regulation of Immigration at the Port of Entry. United States Immigrant Station, New York City,* Harvard Art Museums/Fogg Museum. Transfer from the Carpenter Center for the Visual Arts, Social Museum Collection, Photo © President and Fellows of Harvard College, 3.2002.285

CHSI Surveillance ID Label 5 x 3 6mm Komatex

Measuring Heads, Producing Difference

Craniometers have been used since the early 19th century to fix and measure crania and skulls. The data produced by craniometers have recurrently been used to name racial differences, rank races, and justify theories of racial superiority—less often, to challenge them.

CHSI Surveillance ID Label 5 x 4 6mm Komatex

Craniometer, ca. 20th century

Peabody Museum of Archaeology and Ethnology, Harvard University #2021.0.7

CHSI Surveillance ID Label 5 x 3 6mm Komatex

Skin Color as Scientific Object, Skin Color as Surveillance Data

Felix von Luschan (1854–1924) was an Austrian doctor, ethnologist, and physical anthropologist who created an instrument for classifying skin color. Composed of 36 opaque glass tiles, the skin color chart would be compared with a subject's skin, which was then assigned a corresponding number. Operators often had difficulty reducing skin color to official racial categories. Nevertheless, into the first half of the 20th century, the panels were used to establish and deploy racial classifications. Police commissioners in the United States soon took notice. In 1918, one commissioner praised the anthropologists who created such tools for being "as insistent in their demands for accuracy of description" as the police themselves.

CHSI Surveillance ID Label 5 x 7 6mm Komatex

Felix von Luschan Skin Color Panels, ca. 1914–1933

Peabody Museum of Archaeology and Ethnology, Harvard University #2005.1.171

CHSI Surveillance ID Label 5 x 3 6mm Komatex

Stadiometer, early 20th century

This wooden stadiometer was used in experiments by Harvard faculty and students. Stadiometers are used to track the height of individuals, to create standards of normality and abnormality, and to relate individual measurements to these standards.

Peabody Museum of Archaeology and Ethnology, Harvard University #2015.0.35.1

CHSI Surveillance ID Label 5 x 4 6mm Komatex

Standardizing Bodies and Faces

Scientists have frequently used bodily measurements to create representations of what “standard” bodies look like. Overwhelmingly, those collecting these measurements have treated whiteness as an assumed default—thus reproducing whiteness as the norm against which all other measurements diverge.

CHSI Surveillance Story Label 8 x 8 6mm Komatex

“American Types”

In the 1940s, anthropologists working at the Chemical Warfare Service Development Laboratory at MIT created a series of averaged head sculptures to aid in the design of gas masks. Based exclusively on the measurements of 3,075 enlisted White men, the anthropologists identified in their data six distinctive head shapes corresponding to six “American types.” This typology of national belonging, which excluded all non-White and non-male Americans, was soon after referenced in coverage by the *New York Times*.

CHSI Surveillance Story Label 8 x 8 6mm Komatex

Idealized Sculptural Bronze Heads from Anthropometric Measurements, Used for the Design of Gas Masks, ca. 1940–1945

Peabody Museum of Archaeology and Ethnology, Harvard University #45-47-10/N3976.0; #45-47-10/N3978.0; #45-47-10/N3981.0
Gift of Chemical Warfare Service, MIT Division, 1945

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Half-Sized Models of Norma, the Idealized “Average Woman,” and Normann, the Idealized “Average Man,” Created by Gynecologist and Obstetrician Robert Latou Dickinson and Artist Abram Belskie, ca. 1939–1950

Warren Anatomical Museum, Harvard University
#20751; #20752

CHSI Surveillance ID Label 5 x 4 6mm Komatex

Creating the Standard Face

In the 1960s, the Central Intelligence Agency funded some of the first facial recognition algorithms. Trained on photographs exclusively of White men, these programs continued older attempts to reveal the essence of identity through facial data. Using increasingly capable computer memory modules, the algorithms calculated identity in multiple ways: by using distances between eye pupils; by comparing measurements to those of a “standard head”; and by assuming racialized typologies of facial features.

CHSI Surveillance Story Label 8 x 8 6mm Komatex

Computer Program for Recognizing Faces through Facial Features, Panoramic Research, Inc., ca. 1968

Woodrow "Woody" W. Bledsoe Papers, camh-dob-017281/82/83, The Dolph Briscoe Center for American History, The University of Texas at Austin

CHSI Surveillance ID Label 5 x 3 6mm Komatex

Magnetic-Core Memory Module for PDP-10 Computer, with ~32 to 512 Kilobytes of Memory (equivalent to 0.032–0.512 megabytes), ca. 1966-1983

AMPEX, Redwood City, United States

Collection of Historical Scientific Instruments, Harvard University #2000-1-0006

CHSI Surveillance ID Label 5 x 4 6mm Komatex

Magnetic-Core Memory Module, with ~0.25 Kilobytes of Memory (Equivalent to 0.00025 Megabytes), ca. 1954

Honeywell, Denver, United States

Collection of Historical Scientific Instruments, Harvard University #1997-1-1231

CHSI Surveillance ID Label 5 x 3 6mm Komatex

A Model of Possible Facial Emotions, Used by Psychologists to Study How "Given Meanings, Often Biologically Explicable, Can Be Attached to Given Simple Expressions," ca. 1923

Attributed to C. H. Stoelting Company, Chicago, United States

Collection of Historical Scientific Instruments, Harvard University #WJ0113

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Worldwide Intelligence Data

In the 1960s, CIA operatives around the world used teletype terminals to rapidly transmit typed reports to headquarters. This teletype model was also used by CIA-funded scientists studying facial recognition to send instructions to the computers that ran their experiments and that stored their data.

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Digital Decwriter II Teletype Computer Terminal, ca. 1972

Teletype Corporation, Maynard, United States

Collection of Historical Scientific Instruments, Harvard University #1997-1-0296

CHSI Surveillance ID Label 5 x 3 6mm Komatex

Mundane Recipe Book Compiled from “CIA Families,” Stationed All Over the World, 1997

CHSI Surveillance ID Label 5 x 3 6mm Komatex

BEHAVIORAL

CONTROL

The prediction of human behavior has roots in the study of animals. Harvard psychologist B.F. Skinner used his laboratory research on mice and pigeons to argue that behavior could be shaped by “operant conditioning,” a process that manipulated subjects to perform certain actions through a series of punishments or rewards. Scholar Shoshana Zuboff argues that Skinner’s “shaping” techniques are fundamental to how Silicon Valley companies engineer consumer products to maximally track, extract, predict, and profit from user data. Not all users, however, bear the weight of these techniques equally. Political scientist Virginia Eubanks shows how techniques of predictive profiling are often punitively wielded against people living in poverty, who are oversampled by surveillance data.

Punched-Paper Tape Reader to Program Events in Skinnerian Operant Conditioning Experiments, ca. 1960-1970

Ralph Gerbrands Company, Arlington, United States

Collection of Historical Scientific Instruments, Harvard University #1999-1-0010

CHSI Surveillance ID Label 5 x 3 6mm Komatex

Operant Chamber with Electrified Floor Grid to Shock a Rat in Conditioning Experiments, ca. 1960–1970

Ralph Gerbrands Company, Arlington, United States

Collection of Historical Scientific Instruments, Harvard University #1999-1-0051

CHSI Surveillance ID Label 5 x 3 6mm Komatex

Cumulative Recorder to Create Continuous Record of Animal Responses to Stimuli in Operant Conditioning Experiments, ca. 1955–1960

Ralph Gerbrands Company, Arlington, United States

Collection of Historical Scientific Instruments, Harvard University #WJ1229

CHSI Surveillance ID Label 5 x 4 6mm Komatex

Sketch by B. F. Skinner of Project Pigeon, Which Intended to Use Operant Conditioning on Pigeons to Guide U.S. Military Missiles, ca. 1943

B. F. Skinner (1904–1990), Minneapolis, United States

Collection of Historical Scientific Instruments, Harvard University #1999-1-0046

CHSI Surveillance ID Label 5 x 4 6mm Komatex

Instrument Rack with Operant Chamber and Control Relays, ca. 1983

B. F. Skinner (1904–1990) Department of Psychology, Harvard University, Cambridge, United States

Collection of Historical Scientific Instruments, Harvard University #WJ0961

CHSI Surveillance ID Label 5 x 3 6mm Komatex

SELF-ILLUMINATION

CHSI Surveillance Thematic Label 10 x 4 6mm Komatex

Self-Tracking

Surveillance has long been a means of monitoring and enforcing the labor of workers. At the turn of the 20th century, factory owners increasingly implemented pervasive surveillance systems to track employee productivity. In the 2000s, consumers became fascinated with how digital surveillance tools could illuminate their own behavioral patterns, for example by quantifying their health. Nevertheless, these data trails have been used in unforeseen ways– as when data collected for one purpose are suddenly exploited for another. This raises a question: is visibility through data a trap?

CHSI Surveillance Story Label 8 x 8 6mm Komatex

Lantern Marketed to Police to Carry During Nightwatches in the 19th Century, ca. 1840–1900

Attributed to Dietz and Company, New York, United States

Collection of Historical Scientific Instruments, Harvard University #1997-1-0864

CHSI Surveillance ID Label 5 x 3 6mm Komatex

Lantern Laws and Surveillance

Historically, certain people have been forced to make themselves more visible than others. Scholar Simone Browne shows how the historical maintenance of slavery in the United States is inextricable from practices and technologies which regulated mobility. For instance, 18th century lantern laws in colonial New York City required "unescorted" enslaved people to carry candlelit lanterns after dark, seeking to "keep the black, the mixed-race, and the indigenous body in a state of permanent illumination."

CHSI Surveillance ID Label 5 x 5 6mm Komatex

Molten Candle, ca. 1900–1930

United States

Collection of Historical Scientific Instruments,
Harvard University #1997-1-1475

CHSI Surveillance ID Label 5 x 3 6mm Komatex

From Surveying to Tracking

Pedometers were originally used by land surveyors and later became a consumer item. Media historian Jacqueline Wernimont describes how early mechanical tracking devices became used for surveillance, recounting that a 19th century Boston woman secretly planted a pedometer on her spouse to determine whether he was truly working late at the office after supper.

CHSI Surveillance ID Label 5 x 4 6mm Komatex

Pedometer with Compass, Owned by Antoine Lavoisier (1743-1794), to Measure Steps and Distance, ca. 1785

William Fraser, London, England

Collection of Historical Scientific Instruments, Harvard University #DW0619

CHSI Surveillance ID Label 5 x 3 6mm Komatex

Apple AirTag, ca. 2021

Collection of Historical Scientific Instruments, Harvard University

CHSI Surveillance ID Label 5 x 3 6mm Komatex

Voluntary Disclosure

Self-tracking data can empower users but can also open them up to persecution. For example, health data collected by period apps have recently become sources of incriminating evidence in legal efforts to control reproductive health.

CHSI Surveillance ID Label 5 x 3 6mm Komatex

Period Tracking App, ca. 2020

Public Domain

CHSI Surveillance ID Label 5 x 3 6mm Komatex

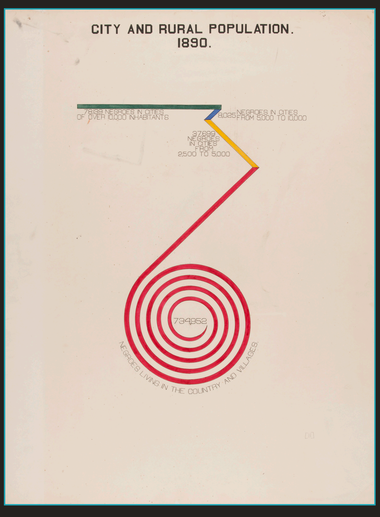
Fitbit, ca. 2010

Collection of Historical Scientific Instruments, Harvard University

CHSI Surveillance ID Label 5 x 3 6mm Komatex

THE MULTIPLE MEANINGS OF SURVEILLANCE THROUGH DATA

Surveillance data captures a moment in time, but there are many ways to make sense of that moment. While visual evidence aims to offer proof that something—or someone—exists, the meaning of that evidence is open to interpretation. The "truth" of a dataset is shaped by contested cultural and technological processes. Historian Sarah Igo has shown how people have brought complex desires to surveillance throughout the 20th century. Sometimes they feared new violations of their privacy, while at other times they embraced being known through data. From cartoons to algorithms and from artists to activists, people have taken a closer look at the invisible infrastructures of surveillance to make their own meaning of it.



Reimagining Data

For the 1900 World's Fair Paris Exhibition, African American sociologist W. E. B. Du Bois (1868-1963) presented a series of data visualizations in the exhibit pictured here. Graphics used interviews and demography data to make visible aspects of African American life that mainstream social and medical sciences had ignored. The exhibit simultaneously showcased the achievements of Black Americans since the end of slavery and highlighted their continued oppression. Du Bois later described the Paris show as "...an honest, straightforward exhibit of a small nation of people, picturing their life and development without apology or gloss, and above all made by themselves."

Images courtesy of the Library of Congress Prints and Photographs Division

The Library of Missing Datasets, v 2.0

In the context of surveillance, missing data can be a blessing or a curse, depending on which side of the gaze you happen to be on. But data is also often the precondition of forms of political recognition, like citizenship, and can be used to address social disparities. Mimi Ọnụọha explores these complexities in her series, *The Library of Missing Datasets*, demonstrating the importance of questions like who collects data, what they choose to collect, and what is missed. Displayed here is the 2.0 version of the Library, which focuses on data affecting Black and pan-African communities.

CHSI Surveillance Story Label 8 x 8 6mm Komatex

Newspaper Cartoon Drawn by Draper Hill on the Absurdities of Digital Identity, Created in the Midst of Increased Computerization, ca. 1960s–1970s

Draper Hill (1935-2009), Detroit, United States

Collection of Historical Scientific Instruments, Harvard University #1998-1-1437

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White Collar Crime Risk Zones

"Predictive policing" refers to the controversial practice of using data about past crimes to predict future crimes, a practice which has intensified discrimination in already heavily policed communities. Critics argue that these tools rely on flawed statistical models and that only certain types of crime have been prioritized by law enforcement. The software tool "White Collar Crime Risk Zones" provocatively rectifies that oversight through sousveillance—inverting the surveillant gaze to watch the watchers, here by incorporating data about financial crimes.

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White Collar Crime Risk Zones, 2017

By Brian Clifton, Sam Lavigne and Francis Tseng
for *The New Inquiry* Magazine

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Walking in an Exaggerated Manner Around the Perimeter of a Square

In the 1960s, long before the Instagram era of livestreaming and oversharing, the artist Bruce Nauman recorded himself walking in his studio, allowing the public to access private space. Following a predetermined algorithmic pattern, Nauman's movements produced an ambiguous form of data about his body. The recording reveals nothing of the artist's motives. Rather, the movements foreground the viewer's own desire to ascribe meaning to data.

Bruce Nauman, Walking in an Exaggerated Manner Around the Perimeter of a Square, 1967–68. 16mm film transferred to video (b&w, silent), 10 min. Courtesy of Electronic Arts Intermix

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The New Organs

Have you ever mentioned a product offhandedly to a friend, only to have it recommended to you right after on some e-commerce site? You are not alone. Artists Tega Brain and Sam Lavigne draw on stories submitted to them by users to reflect on the very real phenomenon of "surveillance capitalism" on the web today.

The New Organs, by Tega Brain and Sam Lavigne, 2018–ongoing

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Sousveillance through Computer Vision

Forensic Architecture, an interdisciplinary research group, uses computational and spatial techniques to aid human rights investigations. The organization developed a publicly-available software suite called mtriage, which repurposes the image classification techniques long used in facial recognition and other surveillance tools. Users can bulk download media from sites like YouTube and analyze them using computer vision techniques. In this way, specific objects, like tear gas canisters or tanks, can be identified and classified across thousands of videos.

Video by Jackson Delea, Lucas Gelfond, and Lachlan Kermode, 2023.
Mtriage was developed by Forensic Architecture

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