Surveillance Entrepreneurs and the Semiotics of Anonymity in the United States, 1900-1930[1]

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Mass surveillance is the systematic observation, capture, and transfer of human activity into data, and reflects a convergence of interests by the security state and the tech industry. That is the argument developed by scholars of surveillance in recent years (Igo 2018; Lauer 2017; Lyon 2018). Accepting the basic premise of this origin story, sociologists have attended to questions of why and how surveillance technologies have been adopted by a range of social actors, including law enforcement, employers, public housing authorities, and educational institutions, and with what impact on people's lives (Brayne 2017). We know less about citizens' participation in mass surveillance, and how ordinary people have affirmed, expanded, and shaped it. This is a crucial gap in our understanding, with current discussions of the matter focused on passive compliance, whereby a critical mass of people tolerates observation on grounds that they have nothing to hide from state authorities. Tolerance, willful blindness, and tacit consent, however, do not explain why so many of us "do surveillance" on ourselves and each other every day, with vigorous enthusiasm verging on aggression (Lyon 2018).

Modern mass surveillance began with fingerprinting, which was first adopted by major urban US police departments in 1904 and then instituted in all branches of US law enforcement,

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immigration, and labor, and the public and private financial sectors. This was not the first intervention into people's private lives. It was, however, the first systematic attempt to capture and control anonymity. It was also the first experiment with transferring personal identification data into suspect data, and it was wildly successful. Police departments and prison wardens across the country touted their suspect numbers as evidence of their effectiveness. Surveillance techniques at the start of the century focused on three category transfers: fingerprints, biometrics, and photographs. Each of them addressed public concerns about habitual criminals, who were understood to thrive in large urban communities where they could rely on anonymity to evade detection. But fingerprints, biometrics, and photographs worked only in so far as they were able to capture, convincingly and legitimately, *distinctions* among individuals. The distinctions had to translate into the language of crime and social unrest. While the three core category transfers persist to this day, fingerprinting has evolved the least. The basic rules of fingerprint decipherment were laid down in the 1870s and are still in place. In comparison with more recent biomarker technologies, fingerprints are crude. They do not map onto social categories, their infinite variations make them difficult to classify, and they are useless for predicting patterns of social behavior. The instruments for capturing and sorting fingerprints are now faster and more sophisticated, but fingerprints remain the domain of individual experts and their trained eyes. This is the case despite the automation and standardization of collecting and analyzing identification data across the entire infrastructure of mass surveillance.

Why, despite its resistance to standardized classification and analysis, did fingerprinting rise to prominence in precisely the moment when the organs of state bureaucracy were embracing standardization? Why did fingerprint images gain in popularity even as the general US population remained opposed to universal fingerprinting? I answer these questions through a

comparative analysis of the institutionalization of two competing forms of identity surveillance, Bertillonage, or biometric anthropometry, and fingerprinting in the early 20th century United States. Existing explanations for the dominance of fingerprinting tend to focus on institutional logic and conclude that Bertillonage was too unwieldy, costly, and technically complex to be of practical use for everyday law enforcement. A related approach, critical historical surveillance, shifts the analytical lens to the public sphere and suggests that fingerprint technology was better equipped to manage increasingly diverse and mobile urban populations due to its cheap and efficient means of transfer between jurisdictions. Each approach contributes something important to addressing the questions above, but neither is sufficient on its own to account for the rise, popularization, and persistence of fingerprint surveillance. Existing explanations, in short, have neglected the iconographic, epistemic, and ludic qualities of fingerprint capture and decipherment. Fingerprints are embedded, to borrow Carlo Ginzburg's perceptive phrase, in the *conjectural paradigm*, in which knowledge is induced from a culturally-determined sign system (Ginzburg 1980: 27). In the case of fingerprints, that sign system comprises clues and puzzles, with social anonymity being the overall problem, or puzzle, in need of solving.

In the pages that follow I will use the case of fingerprinting to examine the micro-foundations of surveillance capitalism. I show that the production, circulation, and decipherment of prints developed into a game in which select everyday citizens were trained to demolish anonymity using whorls and arches as their clues. Through a tripartite process of popularization, private sector monetization, and public sector adoption of finger printing in US law enforcement agencies, surveillance became a form of sociability, of amateur puzzlers legitimized as Fingerprint Men. Fingerprint Men constituted a new third estate, one structured by norms of race, nativity, and masculinity. They were the unsung foot-soldiers in the semiotics of state

surveillance. Their expertise was grounded in divinatory knowledge that was accountable neither to science nor government but rather to the public. Fingerprint Men were not on the payroll of police departments or prisons. Freelance by definition, their material means of support was deliberately structured to be adjacent to, but not integrated into, state funding. What they offered was populist science, one that questioned objectivity and standardization and validated public suspicion toward newcomers, aliens, and the anonymous strangers crowding into American cities. Using theories and methods from visual sociology and sociology of knowledge I show that the new semiotics of state power nourished old forms of conjectural, populist epistemology and a "period eye" trained on individual markers of identity.

Theoretical Orientations: A sociology of surveillance and anonymity

There is growing consensus among social scientists that the structural origins of the digital Leviathan lie in post-9/11 governmentality and Silicon Valley (Bauman & Lyon 2013; Marx 2016; McGrath 2004; Pasquale 2015). In the aftermath of the attacks on the Twin Towers, the United States government authorized unprecedented surveillance techniques, casting an ever-wider net that ensnared every citizen with an email account or cell phone (Lyon 2018). The rapid expansion of surveillance technology was only possible with Silicon Valley's complicity. Tech satisfied its profit motives and the state fulfilled its vision of complete observation. "Economic action determines objectives," Zuboff writes, quoting Max Weber, whereas technology provides "appropriate *means*" (Zuboff 2019: 16). Specific technologies, in other words, flow from the dominant logic of surveillance capitalism. This is an attractive argument, one that confirms received wisdom about modernity's inexorable march toward bureaucratic dispassion and standardization. Simmel recognized the quickening momentum of that march, warning of the

growing gap between subjective and objective knowledge and urging "the resistance of the individual to being levelled, swallowed up in the social-technological mechanism" (Simmel 1976 [1903]: 1). And yet he also understood that modernity is built on pre-existing structures of social interaction and inherits their ontologies. Modern objectivity has long had to contend with the inconvenient reminders of irrationalism and subjectivity from earlier forms of thought and social practice (Daston & Galison 2010). Anonymity, one of the most fundamental aspects of social identity, is no exception.

Media scholars and sociologists have approached anonymity largely as a performative strategy, particularly in the context of social media and online communities (Epstein 2016; Nissenbaum 2010). In these studies, anonymity is something a person exercises and has basic control over. This approach, however, overlooks a key dimension of anonymity: its objectification, allowing it to be detached from an individual and then commodified, manipulated, and traded by third-party actors. It was this transition that laid the groundwork for the modern surveillance industry. Citizens played an important role, meanwhile, by embracing and guiding the expansion of surveillance. Citizens validated the pseudo-science of fingerprinting and transformed the idiom of the game into a permanent policy paradigm (Whitson & Simon 2014).

Anonymity is the absence of an individual's identifying or outstanding features. To be anonymous requires "an audience of at least one person," in sociologist Gary Marx's apt phrase (Marx 1999). Nevertheless, anonymity has received less attention from social scientists than has the concept of privacy. Privacy refers to the limit on how much governments know, or have the right to know, about its citizens (Igo 2019: 27). It was during the nineteenth century that Americans gained heightened awareness of privacy as a thing to be protected, particularly from

media and the "publicists" whose job was to expose individuals' domestic lives for public consumption (Igo 2018). Privacy was threatened, too, by the adoption and spread of personal data collection. The powerful Mercantile Agency System, for example, "[E]xerted control over its subjects by making them 'legible.' At the heart of Tappan's New York office was a library of imposing ledgers in which the identities, assets, and local reputations of all known businessmen, and many businesswomen, were recorded. Within the pages of the agency's books, social relationships were converted into disembodied and increasingly abstract forms of data, and American citizens acquired a new institutional identity, a financial identity, by which they would be known and judged" (Lauer 2017: 156). What people objected to in the mercantile system was not exposure per se but rather the loss of control over where one's identities and reputations traveled, as personal data was released into domains beyond the reach or comprehension of the individual. Privacy was thought of primarily in spatial dimensions, a mode of thought that persists to this day. We are warned against incursions *into* or encroachments *on* privacy, with law, journalists, state actors, Silicon Valley, and online trolls all having the capacity to "invade" our private space.

Where privacy deals with the shielding of domestic life from state observation, anonymity is the capacity of a person to engage in the public sphere without sharing their identifying attributes. There is a technical aspect of anonymity, which has come to be discussed as the intentionality of software to guarantee that individuals' specific attributes will not be released for public scrutiny. That aspect has largely overshadowed the cultural aspect of anonymity, or the shared normative expectations and understanding about guarding against identification. Academics have their own cultural practices of anonymity, most notably in double-blind peer review. Reviewers are expected to recuse themselves if they know the author

of the submission, and are bound not to Google the title and keywords, or otherwise try to figure out the author's identity. The author, upon reading the reviewers' reports, may well be able to guess the identity of particular reviewers but tacitly agrees not to "out" them. The shared understanding of anonymity, in this case, is cultural. Authors and reviewers may be able to outsmart the technical apparatus that "blinds" the process, but everyone involved agrees to pretend not to know in the interest of a field-wide adherence to best practice and norms (Lamont 2009). Being unnamed is, here, not the same as being unknown. What this example points to is anonymity's polarity, being one value of a broad dimension of identifiability (Marx 1999). This in turn is part of a broader variable involving the concealment and revelation of personal information and of identity knowledge. Privacy involves the expectation that individuals should be able to control the circulation of identity knowledge about themselves. Anonymity is the individual's refusal to participate in processes that generate identity knowledge.

As part of his framework for a sociology of anonymity, Gary Marx identifies seven components of identity knowledge. They are legal name; locatability; pseudonyms that can be linked to a person's legal name (for example, Social Security Numbers); pseudonyms that cannot be linked to other forms of identity knowledge ("pure anonymity"); distinctive behavioral patterns; social categorization (for example, associating persons who show up in a particular place and time with whatever majority-group event is occurring there); and symbols of eligibility/non-eligibility (employer ID cards, membership cards, gang tattoos, religious garments, and so forth). To be fully anonymous is to conceal all seven components. What links Marx's types is the challenge to observers to discern the contours of specific individual identity in the dim light of partial information. This is the defining quality of modernity, Simmel reminds us, the imperfect knowledge of our fellow communitarians and the permanent failure of any one

person to be fully known (Simmel 1903). Marx emphasizes the performative side of anonymity – our active strategies of concealment. He provides the seeds for, but does not fully develop, a theory of anonymity as material and iconographic.

That mass surveillance is embedded in an earlier social vision is frequently emphasized by scholars, and yet the making, unmaking, and use of images within that vision is theoretically shortchanged. Visual sociologists have not helped matters, preferring to concentrate on artistic images or symbols that require nuanced interpretation. The vast majority of images encountered in a typical person's day are not artworks. They are, instead, corporate logos, sports mascots, traffic signs, and stylized brand names. Much of what we see on a daily basis we do not have time or need to interpret in any deep way. Instead, we rely on shallow epistemic modes of sign navigation. This is the "period eye" of modern capitalism (Baxandall 1988). Vision changes; how we see is historically located and socially situated. Surveillance capitalism in its infancy was shaped by a specific vision change described Nathan Jurgenson as "documentary consciousness" (Jurgenson 2019: 2). Documentation requires both a recording medium (for example, ink and paper) and a mode of witnessing (for example, the fingerprint expert). What is being witnessed is the transferal of objective to subjective reality. In the era of documentary consciousness, witnessing suffices for simple knowledge. It consists of two phases, seeing and saying. The first is passive and accidental; the second is active and privileged, with the witness becoming the "possessor and producer of knowledge" (Jurgenson 2019: 6). The early 20th century American fingerprinting industry worked hard to ensure that its experts had an exclusive claim to both.

Colonizing Identity: The 19th century origins of mass state surveillance

Fingerprinting for routine state administration got its start in the Indian Civil Service. The inked transfer of finger tips or palm markings pre-existed the Raj; illiterate Bengalis had long used finger dabs (*tip-soi*) as signatures, and palm prints of red dye were associated with particular Hindi temple ceremonies. British colonial officials amalgamated and appropriated both practices, initially in order to control their subjects. Native Indians, they feared, were slippery and shape-shifting, and Bengalis in particular were suspected of innate mendacity, revealed by their "ingratiating nature" and loose affiliation with facts (Sengoopta 2003: 50). To control colonized peoples' movements and outwit their supposed duplicity and cunning, British officials developed an elaborate system of colonial anthropology (Dirks 2002). The land and its flora, fauna, seasons, and natural features; and the human population with its diverse linguistic groups, religious communities, castes, and ethnicities were codified, classified, and drilled into administrators. In India as in other European colonial projects, meticulous study of this vast store of knowledge was a prerequisite to acquiring "ethnographic capital" and advancing through the colonial ranks (Steinmetz 2007; cf Kaviraj 2010). It was also understood, however, that even the most devoted administrator-savants could not hope to know every singular feature, including specific individuals who might be resistant to colonial control. British officials were particularly distressed about two persistent problems: the "criminal tribes" and how to discipline them, and the probity of legal contracts between colonial offices and native persons (Cohn 1996). Land purchases, pension applications, and labor agreements, among other contracts, were entered into orally and transcribed into administrative records after the fact. Colonial administrators were personally responsible for enforcing their contracts, a responsibility that extended to reimbursing

the Crown any monies lost through embezzlement and default. They had great incentive to ensure the identity of the signatories.

Beginning in 1858, ICS officer William Herschel incorporated finger and palm prints into contract documents in the Bengal districts under his jurisdiction. He later explained that he did so because he felt the need to intimidate his subjects out of any thought of repudiating their signatures: "So difficult was it then [1858] to obtain credence to signatures that I bethought me of the signature of the hand itself. It was the first idea that occurred to me of the kind, and was only intended to frighten the man" (Sengoopta 2003: 58). Herschel did not study the lines and ridges that distinguish fingerprints. That would be the work of another ICS officer, Edward Henry, and two colleagues in the imperial police service, Azizul Haque and Hem Chandra Bose. As senior sub-inspectors, Haque and Bose were trained in Bertillonage – a set of precise bodily measurements taken by calipers and rulers to create an individual record, considered the cutting-edge system for identifying and track lawbreakers (Sodhi & Kaur 2005). Bertillonage had its drawbacks. It was labor- and resource-intensive, requiring an hour to complete a single suspect's filing card. Bertillonage also produced records that were difficult to share or transfer among precincts. Haque and Bose, however, noticed that the palm marks on colonial contracts bore unique features, and that they could be distilled to just the ten tips of a person's fingers. Working closely with Henry, the three developed an extensive study of fingerprints, culminating in the 1900 publication of *The Classification and Uses of Finger Prints*, authorship of which was given only to Henry. (Haque and Bose were eventually honored for their contributions by King George V during his visit to Delhi in 1912.) The new system of classification made a deep impression on colonial administrators (Cooper 2005). It was unprecedented in the British experience with social control. Much faster than Bertillonage in its production, replication, and retrieval from the

indexes, it proved a far superior method for verifying identity. ICS officials shifted their funding priorities from anthropometry to fingerprinting and on June 12, 1897, the Governor-General in Council ordered that "the system of identification of criminals by finger impressions is to be adopted generally in British India" (Sengoopta 2003: 139). The world's first fingerprint bureau was set up in Calcutta in 1897, and British colonial rulers implemented the fingerprint system in Madras, Punjab, the northwestern provinces, and Burma. Some two hundred million people were now to be documented with fingerprint data, for administrative functions including criminal prosecution, financial agreements, census registration, and population movement.

If classification and identification were imperial priorities in the Raj, in England, by contrast, there was staunch opposition to fingerprinting. What was good for the colonies was unthinkable for the colonizers themselves. Any new method of individual identification had to overcome a mountain of suspicion, and fingerprinting was no exception: it was seen as fundamentally incompatible with British justice. Nineteenth century thinking about crime and social disorder held that criminal traits were inherited. The solution to habitual offending and deviance, then, was to round up and imprison family groups and neighborhoods where crime was rampant. This belief was twinned with a widespread cultural preference for remaining anonymous, unobserved by the government and its agents. Respectable Britons remained outside the surveillance system. *Disreputable* Britons, on the other hand, or non-Britons, were another matter. At the same time Haque, Bose, and Henry were building a fingerprint database in Bengal, a rising fear of Jewish infiltrators led to new immigration restrictions in Britain. The Jewish population in Britain was growing steadily, from 46,000 in 1880 to 250,000 by the end of World War I. Rumors of deceitful moneylenders and Jewish-German spies moved public sentiment toward acceptance of fingerprinting as a preventive measure against suspect social groups. After

the Aliens Act of 1905, Jewish immigrants were required to be fingerprinted by police authorities as part of their registration process, and fingerprints were used to carry out expulsion orders (Alderman 1992: 132-137). Henry himself organized the fingerprinting of "Coloured" workers in British South Africa – a system that integrated colonial records on labor, census, and law enforcement. He took the fingerprinting system to the Metropolitan Police in London in 1901, where he was appointed assistant commissioner and tasked with overseeing the system's adoption by all municipal police authorities. From its origins in colonial contracts, fingerprinting had developed into a full-blown system of surveillance and oppression.

Bertillonage vs. Fingerprinting

Fingerprinting was initially just another new technology for identifying criminals, the unglamorous newcomer after Bertillonage. Named after Paris police inspector Alphonse Bertillon, that system was structured around a set of eleven measurements of various bony parts of the body. These included height, length and breadth of the head, arm span, height while sitting, width of the cheekbones, and lengths of the left middle finger, little finger, the foot, forearm, and the right ear. Each of these had to be determined with accurate calipers and rulers, and then recorded on a standardized card. The goal was to measure those parts of the body that were not susceptible to change through aging or weight fluctuation. To guard against false positives, Bertillon added text fields to each identity card. Police officials were to use the text field to write a physical description of the subject, using standardized terminology and a list of specific identifying marks such as scars and tattoos. The use of measurements and unique descriptors in criminal investigation was not new, but Bertillon's contribution was to develop a precise, universal vocabulary for every feature of a person's body: hair color and facial hair,

crow's feet and lip shape, and the shape and form of nose and ears were all subject to tightly controlled description and indexing. Profiling and measuring subjects' ears had to be described on the Bertillon cards under four headers – border, lobe, antitragus, and folds – thus constituting the jewel in the crown of Bertillon's morphological vocabulary (Figure 1). Harnessing the technological promise of photography, Bertillon later added front and right-profile photos of each subject's "mug," or face. The point to the mug shot was not to displace or override the eleven measurements, however. It was for ease of reference by clerical staff. Through Bertillonage, individual identity was to be transmitted purely in words, and each subject's card was known as a *portrait parlé* – a speaking portrait.

Bertillon unveiled his method in 1883 and it was eventually adopted in Germany, Austria, Russia, Switzerland, Britain, and, in 1887, the United States. At the invitation of Robert McClaughry, Superintendent of the Illinois State Reformatory at Pontiac, IL, and champion of anthropometry, Bertillon exhibited his mug shot booth, measurement equipment, and sample identity cards at the World's Columbian Exposition in Chicago in 1893. Period newspapers reported that fairgoers were particularly enthralled by the "whodunit" fake murder scene that Bertillon appended to his scientific booth. Civic leaders and law enforcement professionals, however, took notice of the mug shot and anthropometry. It was the American public's first encounter with the mug shot, and they embraced it quickly. McClaughry had been Warden of the Illinois State Penitentiary at Joliet. He was an advocate for full surveillance of criminal offenders, during and after their prison sentences. In Bertillonage, McClaughry recognized the potential to monitor known offenders and predict future crime patterns on the basis of traits that may be common to certain classes of social deviants. McClaughry successfully lobbied the Warden's Association of the United States and Canada to adopt Bertillonage, and with his

backing, Bertillon traveled the US and Canada, demonstrating his method to large audiences. By the end of the 1890's, Bertillonage was being used by the police departments of Chicago, Baltimore, St Louis, and New York City, with the federal prison at Leavenworth, Kansas serving as the hub of centralized record-keeping and distribution. His starring role in the Jack the Ripper and Alfred Dreyfus cases – in the latter of which his handwriting analysis clinched Dreyfus's conviction – propelled Bertillon and his system to global fame.[2]

The appeal of Bertillonage to McClaughry and other US law enforcement professionals was its story of race-based social degeneracy. Shaped by the positivist criminology of Italian sociologist Cesare Lombroso, Bertillon explicitly linked "atavisms," or redundant physical features, with criminality. Aberrations of the ear or nose were indicators of inherent flaws of character and temperance – and hence that a person was "born to crime," in Lombroso's thinking (Gibson 2002: 2-3). That Lombroso's classification of criminal types was overdetermined by poverty, cultural stereotypes, and racism has been extensively critiqued elsewhere. For Lombroso and other influential social scientists, anthropometry stood as a neutral observer of individuals' physical differences, draped over racist structures of social order and state power (Horn 2003). While British public figures obsessed over deceitful colonial subjects and Jewish treachery, American social order depended on controlling African-Americans and "aliens" – a category that expanded to include people of color and poor whites who arrived in large US cities without documentation or a discernible paper trail. Anthropometry provided an administrative solution and simultaneously fed the (white) social imaginary of race- and "alien"-based threats to

[2] "It was as a handwriting expert that Dr. Bertillon figured in the famous Dreyfus trial. The guilt or innocence of Capt. Dreyfus of the charge of treason hinged upon the identification of his handwriting with that of the infamous bordereau, the treasonable correspondence between the traitor in the French Army, and the German authorities to whom he promised to make his betrayal." Bertillon testified that it was a match, along with another expert. The third expert said no. Dreyfus was found guilty. "Bertillon, Noted Criminologist, Dies." Obituary, *New York Times*, Feb. 14, 1914.

stability. In two well-publicized cases in the 1890's, black men suspected of violent felonies nearly got away from law enforcement officials, and were only caught by experts fluent in Bertillon's speaking portrait method. These were sham cases – invented and performed to whip up public hysteria and then assuage it with administrative competence – but they did their job. Bertillonage put white minds to rest with assurances of surveillance and infallible identification.

The same logistical challenges faced by the Bengal Police in implementing Bertillonage, however, frustrated American police departments. Initially the job of female telephone dispatchers in the St Louis and Chicago police departments, Bertillonage work was soon given over to male police officers due to the gendered inappropriateness of taking intimate measures of a subject's body. Bertillon himself trained McClaughry and a handful of high-placed acolytes in US federal law enforcement. Local-level training fell to municipal officers. Chicago Police Department precinct captains balked. They objected to any interference in their management of neighborhood law enforcement, especially a bureaucratic method that was seen as the brainchild of deskbound data wonks in the centralized Bureau of Identification. Beat cops and precinct captains prided themselves on knowing the people within their jurisdictions. It was by personal experience and memorization of faces and events that Chicago police officers enforced the law, not by data points. To counter precinct opposition, the CPD Chief Commander ordered all precinct commanders to implement Bertillonage or face pay cuts and demotions. To satisfy city hall in its annual report, CDP established a quota whereby a set percentage of all precinct cases had to be processed using Bertillon measurements. In the end a compromise was reached. The Bureau of Identification allowed suspects to be "simply measured and checked up, not photographed." This modified procedure both deferred to police officers' visual knowledge of suspects' faces and mollified members of the public who objected to the encroachment of

surveillance techniques on innocent persons' privacy. "Such persons [who are innocent] have no cause for complaint," the head of the Bureau of Identification wrote in his annual report to the General Superintendent of Police," as when they are not identified [i.e., matched with a criminal history in the Bureau's records], it gives them, so to speak, a certificate of good character."[3]

The CPD's Bertillon compromise in 1903 was symptomatic of the method's demise. Much of the discussion about the end of Bertillonage and its displacement by fingerprinting has focused on logistics (Ginzburg 1980: 25-6). Bertillonage was *hard.* It was difficult to carry out, required specialized training and equipment, and was a nightmare to index and put to practical use. In the age of standards and mass production, Bertillonage resisted mass production. It was more like a bespoke craft than an assembly line. Procedural difficulties were undoubtedly a factor in the decision to abandon Bertillon, but I want to suggest that something else was going on. Bertillonage could not keep up with a changing social epistemology concerning identity and social deviance. Rapid population growth and the influx of new kinds of people into American cities complicated status quo classifications and mitigated against the highly personalized approach that was central to Bertillon's measurements. Finger printing technology, on the other hand, was in keeping with a nascent development in US law enforcement: the expansion of data recording to the point of universal recording and information sharing across law enforcement, commerce, banking, and insurance (Lauer 2017).

Dactyloscopy, as it was known in scientific circles, made the leap from British colonial administration to US policing because it expressed and addressed early twentieth century anxieties about social change. Fingerprinting was perfectly suited for "modern, anonymous, socially mobile societies […] brimming with people who were strangers, both to one another and

[3] General Superintendent's Report, Chicago Department of Police, 1904. Report of Bureau of Identification, Jan. 1, 1904. Pp. 86-7.

to the state" (Cole 2002: 32). US police departments became enthralled with the technique after viewing demonstrations at the 1904 St Louis World's Fair. For them, fingerprinting held out the promise that they might be able to detect and thus control "the invisible danger hidden beneath the social fabric" (Cole 2002: 2; cf. Friedman 1993: 209). Exposing that invisible danger meant expanding the pool of suspects. Prior to fingerprinting and the expansion of suspect base, policing focused on locations of crime: saloons, gambling houses, massage parlors, opium dens, "hop joints," and other "establishments of evil." With fingerprinting came a new logic: crime is diffuse, it can happen anywhere, and the most dangerous criminals are the habitual offenders who remain anonymous by drifting from city to city.

The impress of individuality

Fingerprints are unique patterns formed by raised friction ridges and recessed furrows on the pads of the fingers and thumbs. Friction ridge patterns are the mainstay of fingerprint identification, and they are grouped into three general types: loops, whorls, and arches. Each of these in turn has unique variations. Loops are by far the most common feature, accounting for about sixty percent of human fingerprints. Arches are rare, accounting for less than five percent. Classification begins with the three main types and branches into *minutiae*, or ridge characteristics, to make sub-classifications within type. The two principles underpinning fingerprint identification are uniqueness – no two persons have ever been found to have the same prints, including identical twins – and persistence – fingerprints are set at birth and remain fixed across a person's lifetime, even as new skin cells form to accommodate growth or scarring.

As an image the fingerprint functions as a cipher. From the outset, Henry insisted that it required *decipherment*, or being "read" like a secret language that could provide clues to a person's true

nature. He was careful to separate decipherment from interpretation. Interpretation suggested an endless series of subjective understandings. Decipherment, on the other hand, works through a "large but finite range of possible actions that are meaningful in terms of the rules of the game (Whitson & Simon 2014: 310). Underpinning the finger print is an impulse to document human life in all of its imperfections, and unmask character flaws.

Henry's fellow British dactyloscopy enthusiast, Francis Galton, tried and failed to demonstrate racialized distinctions among fingerprint samples. In his 1892 book on the subject he despaired of his inability to locate any stable correlation between the racial origin of the subject and fingerprints. He collected specimens from English, Welsh, Jewish, black, and Basque people, without unlocking any secrets of race and heredity. "It is doubtful at present," he wrote, "whether it is worthwhile to pursue the subject, except in the case of the Hill tribes of India […] for the chance of discovering some characteristic and perhaps a more monkey-like pattern" (Galton 1892: 17-8). When Henry visited his home laboratory in 1894, the two men swapped anthropometry tips and showed off their measurement tools. Galton had not quite given up his dream of reading race into fingerprints. Henry, however, had moved on. He saw an advantage in prints' resistance to racial typologizing. If they could not be fixed to pre-set ethnic categories, fingerprints could instead be a flexible platform for *any* social specter. Shortly after his visit to Galton he reported to Parliament that, the success of anthropometry notwithstanding, fingerprinting offered a superior method of identification, one that could be expanded to the universe of subjects and offer "a great social hygiene" (Rowland 1959). While Henry laid the groundwork for fingerprinting in British law enforcement, in the United States it was Warden McClaughry's son, Matthew, who championed the method.

Surveillance entrepreneurs

Matthew McClaughry was a hard drinker and a big talker who burned through jobs and money with equal fervor. He was, in sum, possessed of the ideal qualities of a tech entrepreneur. A restless underperformer in school, Matthew was allowed to help his father at the Joliet prison, where he showed an aptitude for measurement and identification. Matthew helped implement the Bertillon system in the Illinois State Penitentiary while still in his teens, and traveled to Paris to perfect his knowledge of the method under the personal direction of Bertillon.[4] Shortly after the World's Columbia Exposition in Chicago, in 1893, Warden McClaughry sent his son to visit prisons across the United States in order to take measurements and mug shots of high-profile criminals. In 1902, he traveled to London to learn the fingerprint system at Scotland Yard. When he returned to the United States he introduced the system into the War Department.

The younger McClaughry's perambulations in the early part of his career were to be repeated throughout his working years. He held jobs with the Pennsylvania Industrial Reformatory, the Chicago Police Department, the Joliet Prison, the federal prison at Leavenworth, and the US Department of Justice. McClaughry's professional trajectory was uneven, and he changed jobs frequently because he had a habit of getting himself into trouble. After losing his position with the Chicago police (for reasons unstated in his autobiographical notes), McClaughry's father arranged for him to work as a parole officer at Joliet. He left that job after less than two years, "for political reasons,"[5] and took the United States Civil Service exam with an eye toward Department of Justice work. He passed the exam and became the records

[4] "Biographical sketch of Matthew Wilson McClaughry, Superintendent of Identification, Illinois State Penitentiary, Joliet, Illinois," page 3. Undated, unpublished manuscript notes. Chicago History Museum Box Misc.Pamph. McClaughry/F37DA/M121Z.

[5] "Biographical sketch of Matthew Wilson McClaughry, Superintendent of Identification, Illinois State Penitentiary, Joliet, Illinois," page 4. Undated, unpublished manuscript notes. Chicago History Museum Box Misc.Pamph. McClaughry/F37DA/M121Z.

clerk in the federal prison at Leavenworth, Kansas. Promoted to Special Agent in Charge of the Bureau of Criminal Identification at Leavenworth in 1907, McClaughry was suspended in June 1912 after starting a bar brawl in which he punched a former inmate "multiple times."[6] With local newspapers exulting in the story, McClaughry kept his head down and quietly returned to the Bureau a year later. But in 1914 he was let go by the Department of Justice as part of an organizational overhaul.[7] From that year until his death in 1922, McClaughry was out of government prison work and made his mark in the private sector.

Throughout his career McClaughry was a vigorous proponent of systematic identification and surveillance methods. When the tide shifted away from Bertillonage he proclaimed himself a fingerprint visionary, advocating its adoption in prisons across the country. If he was frustrated by his failure to ascend the ranks of federal wardenships, as his father had done, he found bigger opportunity space in the emerging surveillance sector. Having worked in municipal policing, state prisons, federal prisons, and the Department of Justice, he had a thorough understanding of the priorities and pressures at each level. He could talk shop with low-ranking parole officers, drawing on his experience as one of them, fraternize with private detectives, and dazzle recalcitrant Directors at the federal prison with his fingerprint investment pitch. McClaughry was a surveillance entrepreneur, and his exposure to all sectors of US law enforcement and identification endowed him with an extraordinary capacity for strategic action across administrative and political fields. His versatile social skills, pragmatic creativity, and goal-directedness facilitated his ability to "build alliances and solve problems" in their respective fields (Anderson 2018: 174).

[6] *Leavenworth Times*, June 1912. Chicago History Museum Box Misc.Pamph. McClaughry/ CHM qF37DA.M121z
[7] *Leavenworth Times*, Sept. 26, 1914. Chicago History Museum Box Misc.Pamph. McClaughry/ CHM qF37DA.M121z.

Above all, McClaughry recognized two key changes far ahead of his colleagues in prison administration and in law enforcement. First, he saw that pressure from political leaders to fight habitual crime and control "aliens" could be alleviated by what he called "suspect talk." At McClaughry's urging, identification offices in big city police departments began referring to everyone in their database as suspects, rather than the neutral "identified persons." In Chicago, the CPD's annual report had long been a dry document with budget statements and personnel summaries. With the adoption of fingerprinting in 1904, the CPD's Superintendent of the Bureau of Identification – who had succeeded and been trained by Matthew McClaughry – added a new data category, "Suspects," and populated it with numbers unthinkable under the slow and clunky Bertillon system:

> In the question of "suspects" I am pleased to state […] that last year we had 1,085 suspects, and this year we had 1,768, being an increase of 683 over last year. Out of 1,768 suspects, over 37 per cent were identified, many of them were ex-convicts and ex-Reformatory men, wanted for violation of parole, and were returned from Chicago to the prisons in which they had been.
>
> In conclusion, I hope that I will not be considered egotistical when I state that from my position as Superintendent of the Bureau of Identification, I am enabled to know the condition of crime and criminals in Chicago as well, if not better, than most people in this city, and I state without fear of contradiction that, considering the vast territory this department has to protect and the comparatively few policemen we have to do it, the work performed by this department in connection with the arrests of criminals will compare favorably with any other Police Department in this country.[8]

The Bureau of Identification proved its worth by pointing to the number of suspects added to its database. In his report, the Superintendent carefully addressed the sensitive matter of epistemic credibility. The vastness of the suspect pool, he was suggesting, does not dilute his knowledge of "crime and criminals" in the city. Taking a page from McClaughry, he attempted to wed "high"

[8] General Superintendent's Report for the Year 1904, Chicago Department of Police. Report of Bureau of Identification, Jan. 1, 1905. Pages 109-111.

and "low" knowledge: the official, scientized fingerprint indexing at the central office, and the unofficial, embodied knowledge of beat cops. McClaughry himself mastered suspect talk, using sympathetic crime beat reporters to tout his numbers: "During the seven years of his incumbency [at Leavenworth] Mr. McClaughry has directed the filing of 74,000 finger print records and 40,000 Bertillon records. He has made approximately 6,000 identifications and has been keeping the records of three federal and twenty-two state prisons, in addition to recording and comparing numerous finger and Bertillon measurements for police chiefs throughout this country and others." Greatly enlarging suspect pools, in Chicago, at Leavenworth, and in law enforcement systems throughout the country, was more than an administrative achievement. For McClaughry, it was a moral one. Note that "suspect," in these records, is just that: a person suspected of malfeasance. McClaughry and other fingerprint advocates assured a worried public that truly innocent people – people with nothing to hide – had nothing to fear from the police dragnet. But "suspect talk" had its desired effect, all-but convicting ever larger numbers of people and justifying their constant surveillance. Linking the infrastructure of identification data with the infrastructure of capture and arrest, McClaughry saw the future of police work in the United States: what mattered was not guilt per se, but rather the plausibility of a person's association with deviants and criminals. Once in the suspect pool, always in the suspect pool.

The second key change recognized by McClaughry was the nature of social relations in cities. Expanding the suspect pool was related to the phenomenon of urban growth and an influx of strangers. In this context, anonymity was dangerous. It allowed predators to prey undetected and lost children to go unclaimed. It also allowed "degenerates" to mask their true nature. Anonymity was a nightmare – anomic and destabilizing for social order. In Mark Twain's *Puddn'head Wilson* (1894), Tom Driscoll is given his true place as (white) owner of the

plantation after his impostor, the light-skinned black man Chambers, is exposed by a fingerprint. That story was invoked in newspaper stories about crime, reminding their (presumed) white readers that absolute detection was the only thing keeping their neighborhoods safe from elusive habitual offenders.[9] The fear of anonymous strangers was exactly what McClaughry capitalized on in his next professional move.

The rise of Fingerprint Man

After his dismissal from the federal bureau of identification, McClaughry joined forces with T.G. Cooke, a fellow fingerprint enthusiast, to found the country's first school of fingerprint identification. The University of Applied Science (UAS), located in downtown Chicago, offered training in the "fascinating and rewarding science of finger-print evidence."[10] From the beginning, the UAS pitched its programming to ordinary citizens who supported law and order but who were not, for various reasons, able to access formal employment in police departments or prisons. Fingerprint Men, as they came to be known, were generally working-class white men, World War I veterans in need of income and amateur sleuths looking for adventure. Consider the advertisement for the University of Applied Science that ran in the classified section of the November 1922 issue of *Popular Mechanics* (Figure 2):

$500 REWARD for TWO HOURS' WORK

> Warren Biglow, "The Finger Print Expert," was asked by the Chief of Police (of an unknown city) to investigate the robbery of the T___O___ Company offices, whose payroll had been stolen from a safe. "Not a single apparent clue had been found by the police. Almost immediately after his arrival Biglow turned his attention to a heavy table which had been tipped up on its side. Examination of the glossy mahogany showed an excellent set of finger prints."

[9] "Finger Prints Send Man to Gallows," *Terre Haute Indiana Tribune*, Nov. 30, 1910. Chicago History Museum McClaughry misc. pamphlet, qF37DA.M121z.
[10] *Popular Mechanics* November 22, 1922.

Biglow cracked the case and received the full reward of $500 after a suspect called "Big Joe" Moran was caught and convicted. The advertisement goes on to say:

> Could you imagine more fascinating work than this? Often life and death depend upon the decisions of finger-print evidence—and big rewards go to the EXPERT. Thousands of trained men are now needed in this great field. The finger-print work of governments, corporations, police departments, detective agencies and individuals has created a new profession. Many experts regularly earn from $3000 to $10,000 a year in this fascinating game. And now you can easily learn the secrets of this new science in your spare time—at home. *Any man with common school education and average ability can become a Finger Print Expert in a surprisingly short time.*[11]

The Biglow story was fiction. In a different UAS advertisement, "Biglow" has become "Bigelow" and the details of the crime are finessed. Such stories were doing important work, though. They instilled confidence and imagination in the readers. "Any man with common school education and average ability" could be a fingerprint detective so long as they were trained in decipherment. In fact, the ordinariness of Fingerprint Man was part and parcel of the logic of surveillance: everyday citizens observing each other, serving as conduits between law enforcement, private businesses, and "humanity" – a vague moral claim invoked continually by McClaughry and Cooke.

From 1919, *Finger Print Magazine* was McClaughry's and Cooke's main platform for publicizing their business and building a loyal constituency. Cooke regularly dispensed advice about how to decipher fingerprints and coached readers on how to prepare for courtroom testimony in settings where fingerprint expertise might be doubted or rejected.[12] He emphasized correct deciphering of the whorls, loops, and ridges. Fingerprint expertise was premised on having the right ocular purchase on the ridges and whorls. It was not a matter of a natural-born

[11] *Popular Mechanics* November 22, 1922.
[12] *Finger Print Magazine* March 1924, vol. 5 no. 10, p. 9.

eye, however. "We are beginning to eliminate the eye-witness proof in crime detection," Cooke explained to his readers. "Eye witnesses distort the facts without sometimes wishing to do so. Science cannot lie. […] Science does not seek to convict: it seeks truth, no more and no less."[13] The human eye could be reliably aided by lenses, scopes, photography machines, charts, enlargements, special inks, and powder. McClaughry and Cooke were equipped to provide that aid. They were always careful that fingerprint analysis should not be made too complicated. They made fingerprint work *exciting.* They made a game of it. With their power to decipher fingerprints, Fingerprint Men were promised exclusive access to "the only clue" – or the excitement of seeing what nobody else could see at a crime scene. Visibility and invisibility, and access to the "inside dope": fingerprint expertise was voyeurism. The intimacy of whorls and ridges was emphasized by print aficionados from the beginning. Those "innumerable little ridges" forming "little worlds in themselves" that had so riveted Francis Galton were now the prerogative of Fingerprint Man to burrow into, inhabit, and own. As zones of intimacy, fingerprints brought the trained investigator much closer to the suspect than Bertillonage or photography could.

Materializing anonymity

Turning finger impressions into prints was instrumental to Fingerprint Men's success. It was the cornerstone of their profit model and the secret to their knowledge. McClaughry and Cooke developed elaborate techniques for collecting, curating, and commodifying prints. They taught their students how to transfer fingerprints from windowsills, glasses, and other objects and preserve them on slides and paper cards for microscope study (Figure 3). Flat prints are dull to

[13] *Finger Print Magazine* June 1923, vol. 5 no. 1, p. 8.

look at. Their experience in courtrooms taught both men that jurors, judges, and reporters were put off by the bewildering lines and ridges. Prints, they recognized, must be made to come to life. UAS students were instructed to employ visual enhancements that could make whorls and arches jump off the page, appearing three-dimensional. Enlargement, bold lines, color shading, and overlays – a popular device for comparing prints from two suspects – were the fingerprint expert's stock in trade. When attacked by prosecutors or defense attorneys for doctoring the evidence, Fingerprint Men were coached to defend their interventions as objective mechanisms for ocular clarity.

Visual enhancements were directly relevant to the fingerprint's emergence as material objects that could be detached, circulated, and then re-attached to the subject. Fingerprints, in this way, served to materialize anonymity. Being often the only clue left behind at a crime scene, the fingerprint was the medium of tactile encounter between suspect and investigator. The Earl Archer case, featured in *Finger Print Magazine* in July 1921, drove home this point. Archer was alleged to have falsely presented himself as a meter reader for the Peoples Light Co., and entered the home of a Mrs. T. Davidson with intent to assault. He was found guilty via fingerprint evidence. The magazine recounts, "The most damaging evidence against Archer was his finger print. The tell-tale mark which he left on a water tumbler, which he touched at the Davidson home practically convicted him. Archer's defense was that he was not the man who had entered the house. Mrs. Davidson identified him but the defense tried to show that it had been a case of mistaken identity. But the state showed that no two men have same finger impressions and showed the jury that the print on the tumbler and the one taken of Archer after his arrest were identical."[14] The story was accompanied by two images, "Print taken from the Finger of Archer,"

[14] *Finger Print Magazine* July 1921, vol. 3, no. 1, pp. 4-5.

and “Print taken from Water Glass.” The fingerprint bridged the gap between Archer’s personhood the glass’s objecthood, hence “distributing” Archer across space and time (Gell 1998). The distribution of personhood here weakens Archer’s position, however, leaving clues to his identity and undermining his anonymity.

Fingerprints, an American jurist pronounced in 1923, were not simply “testimony *about* his body, but his body itself” (Sengoopta 2003: 112). Bertillonage could not rival the intimacy or the primal materiality of the fingerprint. Circulating not simply as simulacra but rather as body parts for sale, fingerprints took their anonymous bearers into domains of observation and scrutiny beyond their control. Fingerprint Men were trained to build registries of fingerprints and use them to economic advantage, as exemplified by Walter LeBrown of Kansas. The following passage, from a 1922 edition of *Finger Print Magazine*, is lengthy, but it provides important depth of context for understanding how fingerprints were commodified and circulated into new domains:

> Every one of us knows that [national fingerprinting] is coming some time and a lot sooner than most people expect. And when it does come, who is going to profit? (Besides the country and every person in it.) The finger print expert, of course. […] When the agitation starts, there will be a big scramble to learn more about this great science, but the men who begin **then** will be the novices. It’s you boys who will be the BIG MEN in the great profession of Finger Print Identification.
>
> Of course, there’s a big opportunity for you men right now. Take Walter Le Brown of Ark City, Kansas, for an example. He wrote me a letter the other day that shows what finger print identification offers a practical business man. He has established the three-finger system in over 70 stores and banks. He is establishing a personal insurance Identification Bureau. He is making over $700 a month and the only reason he isn’t making more is that he has not been able to get trained men to help him.
>
> These private bureaus are needed all over the country. The live wire finger print expert who can see the business possibilities in his own territory and who has the nerve to start in business for himself can make a lot of money and gain a wonderful reputation this way. […] Le Brown has a lot of pep and foresight. “I’m

> stirring up more interest in this town than T.R. could. I am going to have a hand in Universal Finger Printing," he says. He knows that by helping the country he's helping his own business and giving a push to the other men in his profession. That's the spirit![15]

The specific innovation was to offer fingerprinting services to the financial sector, effectively coming full circle with Herschel's colonial bureaucracy. Le Brown's streamlined three-finger system made personal identification fast and easy, and with his portable index of fingerprints he traveled among banks and lending institutions. The material fingerprints were his property, being "data" that he created. The interpretation of those data was provided by Le Brown to the banks as part of his service package. Fingerprints were individually priced and classified. In this way, Le Brown exemplifies that financial model of fingerprint technology that persists in surveillance capitalism to this day. Fingerprint Men stood outside the government and public sector. They were conduits between the state and the public. McClaughry's work for the fed was always discretionary, never a standing budget allocation. Fingerprint bureaus in police departments accounted for a tiny percentage of overall budgets. And decipherment expertise was monopolized by the University of Applied Science and its graduates, a lucrative service done on a consultancy basis.

Fingerprint Men, above all, were styled as loyal citizens working quietly and without fanfare to uphold values of patriotism and patriarchy. In the xenophobic atmosphere of 1920's America, they became "Protectors of Society":

> Did you ever stop to think of the thousands upon thousands of immigrants who are being landed on American soil each week; who drift to different points of our country to live? We must admit some of which make good citizens, but, we know a vast number of them commit depredations and crimes. A great many who land here are in reality unknown to the officials and the Protectors of Society, whose experience in the past few years with the alien enemy should be a lesson to good Americans [reference here is to WWI vets].

[15] "Needless Insult," *Finger Print Magazine* May 1922 (vol. 3, no. 11), p. 2.

> I believe the time is now here when […] a law be enacted, making it compulsory for every immigrant whether they be young or old, male or female, to have their finger prints taken, before they are allowed to proceed to their future place of residence. […] These finger prints could be sent to the Government Bureau of Identification, and at any time in the future that any of these immigrants get into trouble and their **true identification** is needed, they could be finger printed and a copy sent to the National Bureau, whereby the officials secure all necessary information relative to any of these individuals. The finger prints of immigrants would not cast any reflection upon their character as long as they obeyed the laws of our country, but it would protect American citizens against those who come here with wrong intentions, or those who would seek to use this country as a hiding place.[16]

The ambitious view being laid out here was a national database to identify and monitor all foreign immigrants and then link them with family members and alien associates already in the country, generating crude network maps. Fingerprint Men stood ready to convert the "microphysics" of finger lines into the macrophysics of state power (Foucault 1977).

Discussion

"Low knowledge," Carlo Ginzburg wrote, is "the kind 'which exists everywhere in the world, without geographic, historical, ethnic, gender or class exception,' but which nevertheless is peculiarly the property of those who within a given society are not in a position of power' (Ginzburg 1980: 6). Low knowledge is informal knowledge, based on everyday experience and trained observation, which gives the observer the capacity to divine information from signs. Fingerprint Men possessed what Ginzburg called "conjectural" knowledge, being adjacent to but not fully part of the realm of elite, formal knowledge. Fingerprint Men controlled a specific kind

[16] "Editorial: Why not protect our country against the future invasion of unknown alien spies and criminals?" by Capt. A.P. Spiker, Supt., Ohio State Bureau of Criminal Identification, Mansfield, Ohio *Finger Print Magazine* July 1921 vol. 3 no. 1, p 2.

of knowledge: the secret of deciphering society through clues. They did not exercise state power directly. Instead, they leveraged diagonal power – a politics of everyday stealth and evasion, "a politics that 'dare not speak its name'" (Scott 1985). Resisting the demand for more statistics and more proof, McClaughry and his legions of Fingerprint Men offered speculation and imagination. The imaginative possibilities of fingerprints amplified public hysteria about anonymous strangers and aliens and cemented the figure of the Fingerprint Man in the priestly caste of sociological crystal gazers. Against standardization and classification, against complexity and numbers, fingerprint knowledge resisted state bureaucracy and slithered into the dark underbelly of prejudice and white supremacy.

If Bertillonage was difficult to produce, the "portraits" that resulted from it were easy to read. The eleven measurements, formulaic text descriptions, and mug shots were unambiguous descriptors intended to be understood by any law enforcement official, no matter how low-ranking or untrained in anthropometry. Fingerprints, on the other hand, reveal nothing to untrained viewers. To be useful, they require training in decipherment. Fingerprinting wasn't the first method of mass identification and it wasn't the most glamorous. It gained traction and surpassed competing methods because it offered a culturally resonant image, one that eluded standardization and rationalization, enflamed the xenophobic imagination, and turned anonymity's making and unmaking into a ludic pursuit. The adoption and dissemination of fingerprinting, I have argued, sheds important light on the origins of surveillance capitalism. It involved a new system of social thought in which individual characteristics were surreptitiously documented by skilled amateurs who inhabited the borderland between state and society.

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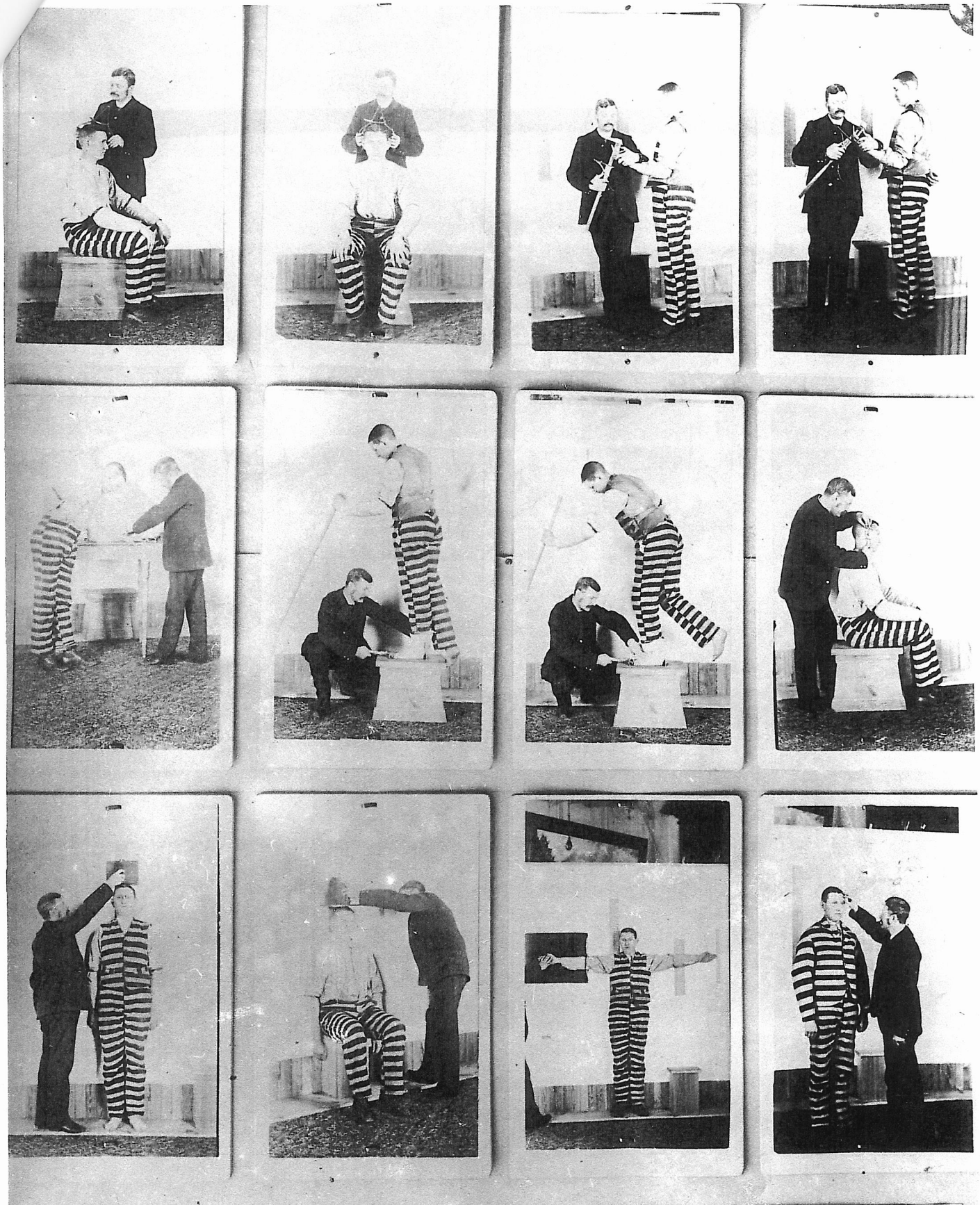

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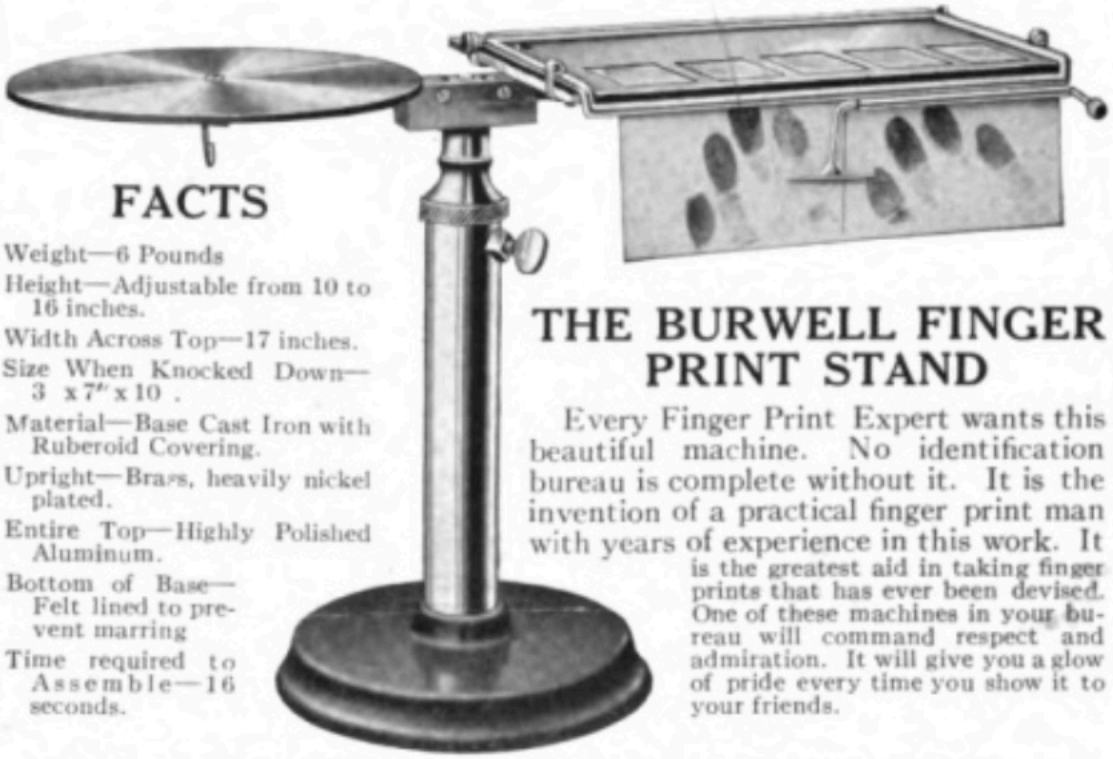
AT JOLIET PRISON ILLINOIS

AT LAST!

A REAL FINGER PRINT MACHINE



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