The Making of "Truth Serum," 1920-1940

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The Making of “Truth Serum”

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SUMMARY: This essay reconstructs a social and cultural history of “truth serum” in America during the 1920s and 1930s, identifying the intellectual ingredients of the idea of a physiological “truth technique,” and examining why it seemed to meet an urgent need. It argues that truth serum had the patina of modern science but produced a phenomenon that could be understood and evaluated by everyman. It therefore offered the public a technique with the benefits of expertise but without its attendant costs to lay authority. The paper also argues that truth serum helped develop an account of memory as a permanent record of experience, accessible through altered states of mind. This view contributed to the production of a public understanding of memory that both diverged from previous claims about memory and recall, and ran counter to the direction of current psychological research. It thus helped lay the groundwork for claims about memory permanence and scientific recall techniques later in the twentieth century.

KEYWORDS: truth serum, memory, forensic medicine, scopolamine, amytal, pentothal, Robert House

Making an Honest Man

In February 1922, the Dallas Morning News reflected on an amazing new discovery—a technique for placing individuals in a state in which they spoke only the truth:

In the event that it can be demonstrated that a lie is impossible under the influence of the drugs which induce this borderland somnolence, pole discoverers, explorers and metaphysicians may come to adopt it as evidence that

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they are sincere in their claims. Bank cashiers, candidates for office and others in a fiduciary relation might seek out a recognized establishment where they could go to sleep in this twilight and wake up with a certificate of sterling honesty duly signed and sealed by the experts of the establishment. We have a physical examination for life insurance, and possibly a psychological examination for moral insurance may be next.\(^1\)

This humorous announcement appeared in a period characterized by discussions of how to combat corruption, crime, and dishonesty in society by developing new scientific techniques and technologies. Common to the many manifestations of this mission—forensic-science gizmos like lie detectors, social-scientific tools like statistical profiles of populations, and psychological tests of various kinds—was the notion that honesty could be found and identified scientifically. Hence the appeal of a drug that could place the nervous system in a state that prevented an individual from lying—in short, a “truth serum.”

The idea that memories might be accessed by interrogating individuals in altered states of mind had figured—though somewhat marginally—in the trance practices of the nineteenth century, but was never emphasized or systematically explored in the way that characterized other possibilities of altered states. It seems, rather, that “truths” of personal experiences were constructed as a central focus of psychic intervention beginning in the period under consideration here. Scopolamine was the first of a series of drugs of the 1920s that were touted as having the ability to retrieve records of past events; it was soon followed by new barbiturates.

The ambitious claim made on behalf of these drugs was never fully accepted, but it nevertheless gave rise to a number of techniques that had a significant impact on forensic psychology and psychiatry. It also attained a prominent and lasting presence in the popular imagination. Yet it has received virtually no attention from historians of science. In this paper I will provide a social history of its development in the 1920s and 1930s, reconstruct its intellectual ingredients, and examine why it seemed to meet a real and urgent need. I will also reflect on the implications of this history for our understanding of conventions of human evidence in this period.

The provenance of truth serum in 1920s America raises some of the most immediate and specific questions to be answered in this paper. Truth serum was the creation of a rural Texas physician, Robert House. House claimed that the drug scopolamine hydrobromide, which was known for erasing the knowledge of painful events, could actually be used

to extract intact information. His announcement was seized upon by journalists, police, and forensic scientists as heralding a potentially transformative new technology, and was just as robustly rejected by the legal community. Scopolamine’s identity as an extractor of “truth” was indebted to certain earlier conventions—notably, research into altered psychic states such as mesmerism and hypnotism, which sometimes were said to create a confessional state. Scopolamine, in turn, created the shoes that other chemical agents would come to fill when, later in the decade and in the 1930s, the new barbiturates sodium amytal and sodium pentothal were said to have the potential to extract “truthful” memories.

Why did the claims of a virtually unknown country doctor with no specialist credentials become so compelling? I will suggest that House’s success was part of a public culture that saw unbounded potential in the powers of science and its experts, but that resisted expertise when it threatened the sovereignty of personal decision-making and judgment. Historians have shown the intense optimism invested in the powers of science in the 1910s and 1920s, when science was accorded a “magical” power to solve any problem.2 They have also shown that the new sciences of psychology were extremely popular, one result of which was a lack of clear demarcation between “legitimate” and “illegitimate” practices and practitioners.3 Here, as in many other cases of disciplinary formation, there was something of a free-for-all in the construction of authority.4 This was accentuated by the fact that scientific and medical writers of this period often ventured far beyond their areas of educational or professional expertise.5 The career of House and truth serum serves as an example of how authority and expertise could be constructed, on the fly as it were, by someone with no connections and no psychological credentials, offering up a technique that had the patina of modern science but produced a phenomenon that could be understood and evaluated by everyman.


Another, related ingredient in House’s popular success was the kind of claim he was making about memory. I will argue that truth serum appealed to an intuitive belief in the reliability of memory, which supported and was in turn supported by the notion that a memory record was an object in the body that could be retrieved during altered states of mind. The resulting public understanding both diverged from previous claims about the nature of memory and recall, and ran counter to the direction of contemporary academic research. It also helped lay the groundwork for claims about memory permanence and scientific recall techniques in the 1940s and 1950s.

The Truth about Altered States of Mind

The “truth serum” phenomenon was an amalgam of many ingredients that were not themselves new, but that were reconstituted in new and consequential ways in the cultural setting of early twentieth-century America. It was not an invention of the elite research community—in fact, it did not emerge from research at all.

In the most general sense, the notion of a relationship between drugs and honesty is ancient, dating back at least to Pliny. In the nineteenth century, however, this traditional understanding took on a much more elaborate and specific form. Physiologists, researchers into altered states of mind, and early forensic innovators developed the notion that distinct physiological states of the body—distinct in the sense that they could be individually, precisely, and repeatably portrayed and produced—were coextensive with degrees and manners of truth-telling. Along with instruments whose inscriptions were correlates of mental states—for instance, as Otniel Dror has shown, images revealing whether an individual’s mental state was sunny or stormy—came the idea that experts might be able to calibrate the mental state itself, and the evidential status of what was said while in it.


The trance—as, for instance, in mesmerism, hypnotism, and psychical research—was the focus of some of the most widespread and intense experimentation of the nineteenth century.\(^8\) Strong claims were made both for the idea that entranced states made statements more truthful, and that they made them less so. For instance, it was common to claim that mesmerized or hypnotized subjects were actually in a state of artificial “hysteria” or some other pathological condition, which rendered everything they said a form of pathology; such arguments were made early in the century by opponents to Victorian mesmerism, and more famously by Jean-Martin Charcot at the century’s close.\(^9\) The converse claim was that under the influence of a trance-inducing agent, an entranced subject could tap into truths that were otherwise inaccessible. This drew on one of the most influential of the many explanations for the nature of the trance itself, namely, automatism. According to the physiologist William Benjamin Carpenter, one of this theory’s leading proponents, the subject was placed in a state in which the will was suspended, and lying (as a deliberate act) became impossible; only the power of observation remained, and this was greatly enhanced.\(^10\) Subjects were often likened to powerful, exquisitely sensitive instruments for observing exotic places: other people’s minds and bodies, foreign countries, the spirit world, the Arctic—but among these, the mind itself remained comparatively neglected as a site where information could be explored and from which that information could be extracted.\(^11\)

Around 1900, however, the advent of the notion of the unconscious as a quasi-spatial repository of personal truths made the mind itself into a

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8. This discussion is based on studies of nineteenth-century mesmerism, hypnotism, spiritualism, and psychical research. See Janet Oppenheim, The Other World: Spiritualism and Psychical Research in England, 1850–1914 (Cambridge: Cambridge University Press, 1985); Alex Owen, The Darkened Room: Women, Power and Spiritualism in the Late Nineteenth Century (London: Virago, 1989); Winter, Mesmerized (n. 6).


10. See William Benjamin Carpenter, Mesmerism, Spiritualism, & C. Historically & Scientifically Considered: Being Two Lectures (New York: Appleton, 1877), microform; Carpenter, Principles of Mental Physiology: With Their Applications to the Training and Discipline of the Mind and the Study of Its Morbid Conditions, 4th ed. (New York: Appleton, 1878); Winter, Mesmerized (n. 6), chap. 11.

11. Experimenters noted from time to time that subjects were apt to reveal information during the trance that they would normally have wished to keep secret, but revelation was not a goal; see, e.g., Gauld, History of Hypnotism (n. 6), p. 450.
focus for study. The most famous early example of this is the use of hypnosis in early psychoanalysis, in which Freud initially thought that his patients were describing repressed memories of abuse, only to decide later that their statements were fantasies.12 These early experiments articulated and confronted a question that would become central to all subsequent efforts to develop a truth technique for memory: did they access memories, fantasies, or suggestions (from the questioner), or some combination of the three?

In addition, the notion of unconscious memory was the focus of speculation by biologists seeking to explore the implications of evolutionary theory. Heredity was understood by a number of evolutionary writers of the late nineteenth century as a form of unconscious memory, and the notion of unconscious memory was an attempt to give a materialist account both of memory and of heredity. The claim usually involved the idea of the vibration of cells in the parents, which were then transmitted to the offspring. All of these accounts represented memory as something that could be understood materially, and as such they encouraged the notion of the past as a set of objects or a state of objects lying within the body, thereby providing in principle for the possibility that a technique or technology could identify and even perhaps extract them.13

By the early twentieth century, then, there were a number of familiar, though controversial, conventions in which one could use altered states of mind for the purpose of revealing inaccessible truths, including those within the memory.

12. The seduction hypothesis has been the focus of some of the most contentious historical studies within the history of sciences of mind, making its historical representation itself into a significant part of modern debates over memory. See Christina Howard and Keith Tuffin, “Repression in Retrospect: Constructing History in the ‘Memory Debate,’” Hist. Hum. Sci., 2002, 15 (3): 75–93. On disputes over hypnosis and crime, see Harris, Murders and Madness (n. 9).

The Promise of Forensic Science

The second major ingredient of “truth serum” was a public culture, during the 1920s, that was deeply concerned about crime and engrossed with the promise of new forensic techniques. The 1920s were marked by commitments to deal with dishonesty—in juvenile delinquency, in organized crime, and even, apparently endemically, in the police and governmental communities themselves. An antidote to the “endless chain” of graft that was “stalking the land” was an acknowledged public need, and many people looked to science for the solution.14

The practitioners of applied psychology saw themselves as social instrument-makers, producing indispensable tools for employers, legislators, educators, and judges. Central to their projects was a rapidly expanding set of new technologies, developed since the 1870s, that examined psychic states by monitoring physiological changes. Examples include Wilhelm Wundt’s personal equation, the sphygmomanometer, and, of course, the photograph and motion picture films.15 This was the period when several lie-detector technologies were developed, each designed to produce a graphical correlate of bodily functions with a narrative that was being delivered at the same time. The first lie detectors monitored blood pressure; then came the voice-stress analyzer, and the galvanic skin test.16 What they all shared was a graphic method that produced a visual


A primary aim of these new sciences was to find ways of determining truth-telling that were more reliable than traditional methods. Ken Alder has remarked that it was precisely its ability to read the vicissitudes of the body, rather than to record the spoken word issuing from the mind, that gave the lie detector its greatest appeal—for “while the mind can lie, the body is honest.”\footnote{Alder, “To Tell the Truth” (n. 16), p. 489.} But this faced the psychologists with a problem: their biggest task was to persuade the educated public that human behavior was not transparent, and must properly be interpreted by trained experts. In a culture prizing jury trials and regular elections, such a claim could not be made unproblematically. Experimental psychologists were dismayed to find that lay readers conferred upon themselves, not trained scientists, the authority that psychologists regarded as their property. Even worse, expert claims about human testimony were dismissed—or even actively condemned—by the legal community as a threat to the unfettered judgment of judge and jury.\footnote{More generally, see Burnham, \emph{How Superstition Won} (n. 2), pp. 10–12; Hale, \emph{Human Science} (n. 5), pp. 105–25; Lafollette, \emph{Making Science Our Own} (n. 3), pp. 100–110, 123.}

The great and growing optimism about science in 1920s America only raised the stakes here. The American reading public was enormously sanguine about the powers of science to transform their environment—understandably, given the impact of electricity, indoor plumbing, the telephone, radio, automobiles, and other wonders. As one contemporary writer put it, people were “ready to believe that science could accomplish almost anything.”\footnote{Frederick Lewis Allen, \emph{Only Yesterday: An Informal History of the 1920s} (New York: Harper & Row, 1931), pp. 164–65, quoted in Keith Barbera, “Scientific to the Last Degree” (M.A. thesis, Johns Hopkins University, 1995), p. 21. For a study of how a new technique benefited from this culture of expectation, see Jacalyn Duffin and Charles R. R. Hayter, “Baring the Sole: The Rise and Fall of the Shoe-Fitting Fluoroscope,” \emph{Isis}, 2000, 91: 260–82.} In the late 1920s America even elected a “great engineer” to use his “modern technical mind” to steer the country to and
through greater and greater progressive transformations. But the image of science and engineering here was a rather specific one. In the last age before “big” science, there was still a sense that a scientist might accomplish anything; folk examples of Einstein, Marconi, and the like were widely cited to prove that the local, unrecognized scientific practitioner could achieve near-miracles. By contrast, academic scientists often complained of their invisibility, or at least irrelevance, to a public who looked to the Alexander Graham Bells and the Thomas Edisons of their communities for truly transforming feats of intellect. This was one reason why America’s mood for scientific “magic” did not directly translate into a willingness to defer to psychological experts instead of relying on what was seen as a refined form of lay common sense.

Psychologists found their claims of expertise to be most difficult to establish where failings would be most conspicuous: in the courtroom. As Tal Golan has shown, this was a risky place to purvey expertise: the public standing of nineteenth-century doctors had suffered when they ventured into forensic testimony. The stakes were even higher now for forensic psychologists, since the courtroom was the acknowledged focus of their work. But their efforts met with similar results. Even the great psychologist Hugo Münsterberg was rebuffed when he urged the need to use psychological tools to analyze witness testimony.

Human testimony became the focus of the most bitter disputes about psychological expertise and technologies. Forensic psychology held that human perceptions and actions could be interpreted only by experts. This applied as much to the commonsense evaluation (by judge and jury) of human testimony as to the perceptions and recollections on which that testimony (truthful or not) was based. For example, J. M. Cattell produced a tool for evaluating memories that was intended to do for testimony what Wundt’s famous “personal equation” did for reaction

22. On the “daily miracle” of science, see Burnham, How Superstition Won (n. 2), p. 11.
times. But lawyers—and the general public—were not about to cede the legitimacy of commonsense judgment to this extent. An example of the resulting conflicts is provided by a murder trial of 1906, in which both Hugo Münsterberg and William James were asked to evaluate a case of possible false confession. Both psychologists suggested that the case be reopened, and Münsterberg proclaimed confidence in the man’s innocence. Their views were flatly rejected by the courts, however. The case was not reopened, and newspapers charged Münsterberg with “contempt of court”—and of public judgment.

Controversial as the claims of forensic psychology were, truth serum represented an assertion both more ambitious and more radical. It implied that science could go beyond merely measuring honesty, and actively produce it. Three years into Prohibition, and in the wake of the chemists’ war, the relationship between pharmaceuticals, altered states of mind, and public order was already the subject of lively debate. Truth serum was one outcome of that debate. As we will see, it represented an approach to the dilemmas of human testimony that was, in an important respect, the opposite of the psychologists’. The serum offered a way of cutting through the competing claims of expertise, and of validating the common sense of the common man—but of doing so by applying science and medicine. Unlike other psychological technologies, the phenomena of truth serum did not have to be interpreted by experts before they could be understood by laymen. Instead, this technique promised to make expert evaluation unnecessary. Rather than calibrating veracity or detecting mendacity by subtle traces, it offered to guarantee truth, short-circuiting the role of the expert in decryption. It therefore circumvented, as few comparable innovations did, a key obstacle facing 1920s forensic experts: the conflict between their authority and that of the general public.


From Twilight Sleep to Truth Technique

Scopolamine was first synthesized in Germany in the 1890s, as part of a movement to produce pharmaceutical preparations of plants traditionally known to have medicinal effects. The plants from which it was extracted were known for their psychotropic powers, and it was no great leap to speculate that the stronger chemical extract might, in combination with morphine, produce a new form of anesthesia. But after a few experiments, the effective dose was deemed too dangerous for surgical use. Nevertheless, beginning around 1902, obstetricians began their own trials, with the thought that lower (and safer) doses might still mitigate the pain of labor. They reported that this was indeed so, and they named the resulting half-consciousness “twilight sleep.”29 Scopolamine became particularly well known for its tendency, at these dosage levels, not so much to alleviate pain, as to blur the memory of the experience of pain, an effect that doctors described their patients as regarding as sufficient, and even as equivalent to direct pain relief.30 Ironically, it was this amnesic

29. Note that a variant on the spelling for this drug was “scopolamin.” I have followed contemporary usage in each quote. It is beyond the scope of this paper to address the pharmacological history of scopolamine, but the following outline offers a starting point for readers interested in pursuing the question. This drug was developed in the late 1880s by Ernst A. Schmidt from the dried rhizome of a belladonna-like plant called Scopola carniolica: see E. M. Holmes, “The Natural History of Scopola carniolica, Jacq.” Pharmaceut. J. & Trans., 3rd ser., 1889, 20: 468–71; John M. Maisch, “On Scopola carniolica and Additional Notes on Scopola,” Amer. J. Pharm., 1890, 42: 99–109; John V. Shoemaker, “The Practical Value of Some Old Remedies—Scopolamine Hydrobromide,” New York Med. J., 1905, 82: 749–52. For a source after the period covered by this paper, see Edward Kremers and George Urbang, History of Pharmacy: A Guide and a Survey, 2nd ed. (Philadelphia: Lippincott, 1951), p. 472. On twilight sleep, see Marguerite Tracy and Constance Leupp, “Twilight Sleep in America,” McClure’s Mag., 1914, 43 (2): 37–48; Margarete Sandelowski, Pain, Pleasure, and American Childbirth: From the Twilight Sleep to the Read Method, 1914–1960 (Westport, Conn.: Greenwood Press, 1984), chap. 1. Scopolamine is now understood as acting by blocking acetylcholine receptors in the parasympathetic and central nervous systems, and indeed its amnesic effects have led some recent researchers to speculate that acetylcholine may be important in the neurochemistry of memory: see E. D. Caine, H. Weingartner, C. L. Ludlow, E. A. Cudahy, and S. Wehry, “Qualitative Analysis of Scopolamine-Induced Amnesia,” Psychopharmacology (Berlin), 1981, 74 (1): 74–80. It is considered to be unsafe for use as an anesthetic, but is used to relieve motion sickness and nausea associated with recovery from anesthesia.

30. It seems possible that this interpretation stemmed from an insufficiently intense interest in the subtleties of patients’ narratives. These narratives were closely scrutinized once scopolamine’s forensic potential was being debated, and it then emerged that not only did patients later lose their memories of experiences that took place during the period of scopolamine influence, but they also experienced a lightening of the burden of pain of all kinds—emotional as well as physical. This was important within the forensic context
property that contributed to the (almost contradictory) notion that scopolamine could extract memories.31

Robert House was among the thousands of obstetricians who used “twilight sleep” in the mid-1910s. His practice was based in the little town of Ferris, Texas, a farming and brick-making community near Dallas, where he settled after receiving his M.D. from Tulane University in 1899.32 Like most obstetricians, he used a practice commonly called the “memory test” to calibrate the dosage. The patient was shown an object before receiving the drug, and then again after each of a succession of doses; the correct dose had been reached when she could no longer identify it. Scopolamine’s anesthetic efficacy was thus calibrated through its erasure of memory.

According to House’s own account, this test established that his patients attained a deep state of unconsciousness, and he noticed that they rarely remembered the labor. Then came an occasion in 1916 when he asked a patient’s husband for the scales to weigh the baby, and was told that they could not be found—but the patient, still deep in twilight sleep, gave precise instructions for finding them: “They are in the kitchen on a nail behind the picture.”33 House was so struck by the fact that the woman was deeply unconscious yet was capable of answering questions, that he decided to make further tests. He claimed that this experience suggested that scopolamine could be used to extract truthful statements from individuals who might otherwise lie. He became convinced that he could “make anyone tell the truth on any question”—and that “twilight sleep” could therefore be put to work as a forensic tool.34

because it helped to explain why they would part with damaging or upsetting information: the painful implications of doing so were suspended. The evidence for this was that patients might remark that their pain (or sadness, or fear) was very intense, yet would show no sign that they actually felt the pain itself. It was as if the knowledge of the presence of pain was severed from the experience of it, and the experience itself suspended. This would mean that scopolamine did indeed act as a kind of anesthetic and not just as a memory blocker, but until the forensic phase of its career, the subtle and anti-intuitive phenomena that made it effective as an anesthetic were not remarked upon.


32. R. E. House, “The Use of Scopolamine in Criminology,” Texas State J. Med., 1922, 18: 259–63. There appear to be no archival materials related to House’s work or career, nor any relevant records in any of the Texas medical associations with which he was affiliated, and I have been unable to locate any surviving family, though there is one remaining resident of Ferris, Texas, who knew him (see below, n. 36).


34. Ibid., p. 259.
House’s account of this discovery raises a great many questions—most immediately, how he came to make any forensic associations at all. The ambiguities are intensified by the fact that the account was written years after the event and included few details. The woman’s speech, from what we can gather from House’s all-too-brief description, was in no obvious sense a confession; what was impressive was her ability to communicate, and to impart reliable information—“reliable” rather than “true,” because she had no incentive to lie. One possible source of inspiration is an old convention from the colonial period: midwives were entrusted with the role of asking about the paternity of babies they delivered, the assumption being that a mother would not give a dishonest reply to this question at such a time.\textsuperscript{35} I have found no evidence, however, that twentieth-century physicians even discussed this role, much less respected it. Another possibility is that House, who is still remembered in his hometown as the “perfect gentleman,”\textsuperscript{36} heard something that he did not feel he could repeat in print.

A more general issue is the uncertain status of scopolamine in the mid-1910s. Its popularity had waned soon after its introduction in the early 1900s, after reports of complications and the deaths of a number of babies. It then enjoyed an explosive resurgence in 1915 after an article in McClure’s Magazine promised that it was safe when administered properly. Mothers-to-be then demanded a ride on the “sleeping car ‘twilight’”; in late 1915 and 1916, doctors were giving it to their patients but nervously monitoring their behavior. Indeed, the practice was becoming a significant bone of contention between the American Medical Association and other claimants to medical authority (provincial physicians and laypeople among them). So it was plausible than an obscure or marginal individual might build a reputation by his use of this substance.\textsuperscript{37} This probably explains the closeness of House’s attention. But these years also saw a surge of publicity for lie-detection technologies, which would have primed House to make the forensic connections he did.\textsuperscript{38}

But if this was so, why did he choose to announce scopolamine’s forensic potential only in 1922, some five years later? House himself gave no explanation, but some motivations may be discerned in public discussions that arose in late 1921 about crime and civic duty. Dallas daily papers then began to call citizens’ attention to a new wave of crime that threatened the very social order—a level of crime said to be unprecedented. There was also a steady stream of reports about crimes in which the validity of confession and/or eye-witness identification was a central issue, plus several articles outlining how police activities were being brought into a scientific framework. Every day, House’s morning paper served up new articles about formal training for police officers in forensic techniques, and major articles on new crime laboratories being founded in New York, Chicago, and San Francisco. Most important, in January and February 1922 this ongoing news was framed by exhortations in the editorial pages, telling readers that ordinary citizens needed to address the challenge of crime themselves. Citizens should ask themselves, “What have I done to help?” They should visit prisons, participate in meetings to support prohibition, and encourage other reforms that would increase public order and probity.

The first public trial of scopolamine as a “truth technique” was carried out at the height of these reports on 13 February 1922, on prisoners in a local jail. The trial had been requested by a Dallas district attorney, Maury Hughes, and was witnessed by various local officials. The experimental subjects included one W. S. Scrivenor, a confessed member of a gang that had robbed a post office in Dallas; he wished to refute claims that he had carried out another robbery. The other was Ed Smith.


41. E.g., “Big School for Detectives Is Latest Development,” DMN, 18 December 1921, Magazine, p. 2. There were also complaints that the criminal justice system was ineffective: “Lax Enforcement Stultifies Law, Man-Made Crimes That Are Not Considered as Such, People Laugh at Law,” DMN, 21 August 1921, part 2, p. 2.

“Negro,” who protested his innocence of a murder for which he was about to be tried. News reports regarded Scrivenor’s confession to the Dallas robbery, plus the fact that the crime at issue would not have an effect on his jail time, as evidence that his testimony was not self-serving. After the experiments, he described his experiences under the drug in a statement whose terms were strikingly similar to House’s own descriptions: “Answers to questions slipped from my mind without any apparent desire to stop them,” Scrivenor declared, “and I felt that I couldn’t formulate any imaginative trimmings to them.” He claimed that he had been able “distinctly” to “hear the questions being asked, and having no ability to do anything else, I answered them truthfully, knowing that I was telling the truth, and that it was impossible to do otherwise.”

Scrivenor’s statements were on the face of it extraordinarily well suited to House’s goals, but they also carried a potential danger for them: He did confirm that he had been compelled to answer “truthfully”—but the claim that he “knew” that he was incapable of lying, along with his reflections on his memories, indicated a self-consciousness that undermined House’s claim that the conscious mind was **disabled** by the drug. However, neither House nor anyone else commented on this feature of Scrivenor’s case. The reason for this was probably that House was not a scientific researcher or academic; he was not interested in psychological or physiological questions for their own sake. Rather, he wanted a tool to address intractable problems of crime management that had come to his attention. At any rate, this lack of curiosity would seem to confirm that his concern had shifted decisively from scopolamine’s anesthetic properties (and hence its amnesic influence) to its newly identified memory-procuring powers.

Scrivenor’s testimony helped to establish scopolamine’s plausibility as a truth technique, since as a confessed bank robber he seemed to confirm that a criminal would indeed make a true confession when conversing under its influence. In the circumstances, this was significant,


45. In addition to his private practice, House was city health officer for Ferris and assistant county physician to Ellis County, positions that would have brought him into contact with law enforcement officials; see “Truth Serum Expert Will Address Club,” *DMN*, 22 February 1928, part 1, p. 5, and “Dr. R. E. House to Be Buried in Hometown,” *DMN*, 16 July 1930, p. 12. Other obituaries include “Dr. R. E. House Died Tuesday Night,” *Ferris Wheel*, 17 July 1930, p. 2; “Dr. R. E. House Dies at Ferris,” *DMN*, 16 July 1930, part 2, p. 13.
since Ed Smith, who persistently asserted his innocence both when sober and during the scopolamine test, thereby gained in plausibility. Smith had been arrested in 1921 for a 1916 murder, the primary evidence against him being the testimony of witnesses who turned state’s evidence; his claims of innocence became all the more impressive when these witnesses refused to take the scopolamine test, and he was eventually released.46

Truth serum immediately began to draw regional attention, and then national. Physicians started to discuss its possibilities in medical, psychiatric, and legal societies from Texas, through the Midwest, to the eastern seaboard.47 House himself published his initial findings shortly after these experiments, and followed this first paper with a series of others that inspired national controversy. Legal journals and the popular press hailed or decried his work variously as suggestive or unpromising, “revolutionary”48 or ridiculous. The term “truth serum” was coined within the first few months, supposedly by a Los Angeles newspaper;49 and it subsequently proved irresistible even to doctors who warned that scopolamine was neither a serum nor a straightforward extractor of “truth.” Meanwhile, House entered into “communications” with “medical authorities in Chicago,” the home of leading forensics experts and, from the point


49. Ostensibly by the Los Angeles Record in 1922, according to sources of the 1940s and 1950s, though I have not been able to confirm this. The term “serum” itself was borrowed from the bodily “sera” that were used to make vaccines. The sera taken from animals were spoken of as if they contained a subtle essence of the condition they were going to protect against; they also evoked fears that they might convey something of the nature or identity of the animal from which they came—for a contemporary example, see Dr Weiss’ Brain Serum Injector (Lubin Film Co., 1909–10). Similarly, the “serum” in truth serum was, in a rather conflicted and ambiguous way, associated with a notion of a physiological “essence” of truth—though it itself was not a “serum” according to contemporary usage, and the “truth” it supposedly extracted was the result of administering the treatment rather than part of the “serum” itself.
of view of Dallas, a great metropolis.\textsuperscript{50} He was now stepping from the backwaters into the mainstream.

Truth Serum on Trial

In the years following the initial publicity over the new technique, it was consistently snubbed by the courts as insufficiently proven to be admissible as evidence. But truth serum was welcomed into the court of public opinion, debated in the legal and forensic press, and increasingly used in informal public and juridical contexts. If one follows scopolamine around the country, looking closely at how it was put “on trial” in various local experiments, it is possible to develop a picture, from the ground up, of how its credibility was constructed, evaluated, and contested. The travels and trials of scopolamine reveal that police, prison officials, chaplains, and some (though few) lawyers (but no judges) found the notion of a truth serum plausible and attractive in principle, and that they grafted their own conventions for evaluating truthfulness onto the action of the new chemical technique. More generally, it can be seen that truth serum accorded with commonly held understandings of memory, volition, and truth-telling, and that the antipathy of various elite communities (such as academic psychologists, or the rulings of senior jurists) had little impact on the popular enthusiasm for the new technique.

One of the first and most spectacular cases involved a string of two dozen axe murders in Alabama. Several people were subjected to scopolamine interviews in 1924; five of them confessed under the influence, and then confirmed their confessions after waking from the trance.\textsuperscript{51} What credibility this case gave to scopolamine was mitigated, however, by its subsequent use in a Hawaiian kidnapping and murder case: in this instance a chauffeur confessed during a scopolamine interview, then retracted his confession later, and a second scopolamine interview produced negative results; the chauffeur was not questioned further because at this stage police found, arrested, and ultimately convicted someone else for the murder.\textsuperscript{52}

\textsuperscript{50} “Prisoners Tell of Truth Drug Effect” (n. 43).


House himself toured the country several times carrying out “scopolamine interviews” on criminal suspects and convicts to demonstrate the potential of his drug. Among his many stops were California’s San Quentin Prison; Los Angeles; New York; and New Orleans, where city reporters reported dramatic confessional effects on themselves when they submitted to the experiments, but more ambiguous results on prisoners in the local jail. By 1925 he could claim that he had made eighty-six trials of scopolamine on criminal suspects or convicts and, although this information was never admitted into evidence in court, in twenty-six of these cases the new information led to their release.

House’s stops included a string of prisons in Missouri, and the St. Louis newspapers provide an especially rich portrait of his experiments and of the discussions that followed them. First, he visited the Missouri Penitentiary in Jefferson City to carry out a scopolamine interview on Martin Hulbert, a convict serving a life term for murder. Hulbert, who had requested the test, had been convicted on circumstantial evidence, and his case had twice been appealed to the state Supreme Court. The interview was witnessed by members of the State Penal Board and by prison physicians. Local newspaper articles recorded that during the test Hulbert “declared his innocence,” and they printed excerpts from the interrogation so readers could make their own evaluations:

“Who did you kill?”
“I didn’t kill anyone.”
“What kind of a gun did you shoot him with?”
“I didn’t shoot anyone.”
“Who arrested you?”
“Officers Smith and Malone.”
“How long after the killing were you arrested?”
“Three days.”
“Did you have a pistol when arrested?”
“I never had a pistol.”

56. “‘Truth Serum’ Tried on St. Louis Murder Suspect,” St. Louis Post Dispatch, 3 June 1924, p. 22.
The test continued for an hour, with occasional pauses when Hulbert appeared to be exhausted and became unable to talk. Three hours after the end of the question session Hulbert woke, bewildered and complaining of a headache.58

House was then invited to St. Louis by a prison chaplain, the Rev. John A. de Vilbias, where he conducted tests on a group composed of three prisoners and one journalist. Present were de Vilbias, officials of various St. Louis institutions, the circuit attorney, the prosecuting attorney, and the circuit judge, as well as several psychiatrists and other medical specialists. Although the lawyers who were present expressed an interest in and an open mind regarding scopolamine, the circuit attorney said that the developments would have no legal effect on the cases of any of the men. The drug was then administered to each man, using the twilight sleep “memory technique” to calibrate the dosage. All four, according to a local paper, acted “like drunken men.”59 They were then interviewed, and the criminal suspects were questioned closely about their alleged crimes.

In this case the newspaper maintained a healthy skepticism despite the seriousness with which it treated the experiments. During the experiment it had been “difficult to get [subjects'] attention or to make them understand, and it was obviously difficult for them to make coherent replies”; the paper reported that House himself had not been satisfied with the results of the experiment, though he attributed it to the distractions of the crowded room.60 Some witnesses sensed that, “while the drug might have broken down the men’s reserve and made them less likely to tell lies, it also disabled them mentally to such an extent that they could not comprehend or utter very much of the truth.”61 Others, including Father de Vilbias, pronounced in favor of the possibilities of scopolamine.

At least one of these experiments led to an attempt to change the course of a trial as a result of the scopolamine interview. This was the case of George Hudson, a “negro accused of criminal assault [i.e., rape] upon an aged white woman.”62 Hudson steadfastly insisted that he was innocent. The woman who had been raped identified him as her attacker; he pleaded mistaken identity, and had witnesses who swore that he was

58. Ibid. As far as I know, Hulbert was not able to make use of these experiences in his efforts to prove his innocence in court.
60. Ibid.
61. “Results of Use of Truth Serum,” St. Louis Post-Dispatch, 13 June 1924, p. 28.
62. Ibid.
elsewhere at the time. His scopolamine interview was made while he was preparing for the initial trial. In a deposition, House testified to the events of this investigation, to the nature of the physiological state created by scopolamine as he understood it, and to his own belief in Hudson’s innocence. The transcript of the interview was presented by Hudson’s lawyer as part of the defense, but it was rejected by the judge as scientifically unproven, under the authority of the recent Frye ruling on scientific evidence.\(^63\) In the appeal, two years later, Hudson’s counsel argued that the deposition and the scopolamine interview had been improperly excluded.\(^64\) This time, the summation by Judge Robert Walker Franklin not only upheld the original decision but delivered a scathing attack on House’s claims:

Testimony of this character—barring the sufficient fact that it cannot be otherwise classified than as self-serving declaration—is, in the present state of human knowledge, unworthy of serious consideration. We are not told from what well this serum is drawn or in what alembic its truth compelling powers are distilled. Its origin is as nebulous as its effect is uncertain. A belief in its potency, if it has any existence, is confined to the modern Cagliostros, who still . . . cozen the credulous for a quid pro quo, by inducing them to believe in the magic powers of philters, potions, and cures by faith. The trial court, therefore, whether it assigned a reason for its action or not, ruled correctly in excluding this clap-trap from consideration of the jury.\(^65\)

Truth in Memory

What well was truth serum drawn from? In each case he attended, House offered an account of the physiology of memory, and described a specific mechanism by which scopolamine could manipulate it. Briefly, he thought that scopolamine reduced higher mental functioning to a simple reflex arc, such that incoming questions elicited outgoing information without

\(^63\). *State of Missouri v. George Hudson*, 1926, SC27687, Judicial Case Files, Missouri Supreme Court, Record Group 600, Missouri State Archives, Jefferson City, Mo.; “Results of Use of Truth Serum” (n. 61).


\(^65\). *State v. Hudson* (n. 64), p. 921. The high enthusiasm about scientific experts (Sherlock Holmes and the like) also brought with it a category of Moriarties, Cagliostros, and Svengalis; House faced the challenge of portraying himself, with no institutional backing, as Holmes rather than Cagliostro. On the figure of Svengali, see Daniel Pick, *Svengali’s Web: The Alien Enchanter in Modern Culture* (New Haven: Yale University Press, 2000).
the intervention of reason. He gave no indication of where his understanding of memory or “automatic thinking” came from, nor evidence as to the truth-status of the information he elicited. It is possible, however, to reconstruc
t in general terms, the source of House’s key notion of a mental reflex arc. The notion of automatic thinking—of an incoming stimulus (the question) being automatically reflected back in a reply without the intervening influence of the will—was by no means new. There was a very long tradition to the idea that alcohol loosened individuals’ control of their responses (one marker of it being Pliny’s famous dictum), but the more specific notion of automatic mental response was articulated in a form most similar to House’s assertion by the British physiologist William Benjamin Carpenter (in discussions of hypnotic and quasi-hypnotic states) in many publications of the 1850s–1880s, and, after Carpenter, by many other psychologists and physiologists in Europe and America. Thus there was a long, well-known (within and without the scientific and medical communities), and well-established notion that in certain psychic states it was possible to process questions “automatically,” as a reflex. In this state, according to House, “the stimulus of a question can only go to the hearing cells,” and then “the answer is automatically sent back, because the power of reason is inhibited more than the power of hearing”; he called this state “House’s receptive stage.”

In a more expansive account that House provided in a deposition for the Hudson case, he explained that when a question is asked, the sound waves hit the drum of the ear, and the nerve of hearing, like a telephone wire carries the sound waves to the center of hearing. The only function of the center of hearing is to evoke memory by sending the impulse to that part of the brain where the answer is stored for future use, and . . . the brain sends the answer to the nerve of the tongue. To illustrate—If I ask a person “What is your name?” he cannot by the will power or by any other function of the brain keep from . . . thinking the answer, but his will power can prevent the tongue from articulating the name, and the power of reason can also take the answer and by calling on the imagination make the tongue tell a lie, but when the will power and the power to reason are removed, the replies are automatic. Hence the truth. . . . When the will and the power to reason are nonexistent, then man is too unconscious and too helpless to protect himself by inventing replies to questions propounded.

67. See Winter, Mesmerized (n. 6), chap. 11.
House never addressed one aspect of the phenomenon that might seem contradictory: that a drug known for its power to suspend mental functioning and erase memory could then become a means of forcing the mind to produce and communicate reliable memories. But a resolution lies in the fact that he used the “memory test” on truth serum subjects as well as obstetric patients. He must have expected to produce memory loss (for recent events) in his subjects. This suggests an implicit distinction between very recent and longer-term memories, such that scopolamine could demonstrate its efficacy in the memory test, yet still faithfully deliver intact long-term memories. This is not to say that House was relying on an established, formal distinction between short- and long-term memory—which did not exist at this time and would be made by psychologists and neurologists only later in the century; rather, his was more of an intuitive separation of recently acquired and older information that was never explicitly articulated or argued for.

Modern readers may still want to know how House dealt with the question of whether the imagination could produce artificial memories, with or without the inadvertent help of suggestions from the questioner. This issue became a prominent one only in the 1930s and 1940s, however, as suggestion itself became widely known and accepted as a psychological phenomenon; in the 1920s it was not surprising that House should be concerned neither about suggestion, nor about the possibility that memory might be anything more artifactual than a permanent trace of original experience. The permanent memory trace was the “truth” that House held out to the public as being accessible via scopolamine. He did consider the possibility that the mind might “invent” memories, but did so only in passing and only to provide the occasion to reassure readers that a drugged mind could not do such a thing. It was impossible to lie because drugged individuals were merely conduits for information with “no power to think or reason.” This was because “the conscious mind is asleep while the subconscious mind will function by stimulation of the center of hearing.” In short, “under the influence of the drug, there is no imagination.”

House himself gave no more sophisticated or explicit account than this of “automatic” mental actions or memory. This may have been an advantage: vague as it was, his claim chimed with the statements of other researchers, and seems to have drawn on popular assumptions about the will and memory that were repeated in the press as intuitively plausible.

71. Ibid.
What was amazing, these articles suggested, was the development of the truth serum technique, not the existence of reliable, truthful memories as entities within the body that were in principle accessible to such a technique. The *St. Louis Post-Dispatch*, for instance, explained that the “hearing was unaffected by the drug,” but mental functions were so disabled that the will could not “distort facts imprinted upon the brain of the subject.”72 Forensic professionals soon took up House’s claim, echoing it in roughly the same terms. For example, the highly influential writer Frederick Inbau wrote that “various drugs are capable of producing a mental state in which consciousness is more or less profoundly affected, thereby rendering a suspect’s reactions somewhat automatic.”73

Implicit in House’s account of truth serum was an understanding of memory in which each event or thought experienced by an individual left a corresponding trace that was called up to the conscious mind when it was needed. The record of original experience was not thought to change in any fundamental way, except to become weaker. This was the popular view of memory at the time, but it directly conflicted with one that was emerging from systematic studies of memory within academic psychology, which presented memory as highly malleable and mutable.

A major focus of concern in laboratory psychology since the early days had been the question of how volatile and changeable memories were. For example, in 1895 J. M. Cattell documented errors in particular types of observations and recollections, constructing a sort of taxonomy of witness fallibility.74 Beginning with Münsterberg at the turn of the century, psychologists regularly carried out experiments—often on law and psychology students—to demonstrate the fallibility of memory.75 In 1920, in Britain, Sir Henry Head discarded the notion of traces and argued instead that every experience, understood as a “postural change,” became a part of consciousness “already charged with its relation to something that has gone before, just as on a taximeter the distance is presented to us already transformed into shillings and pence,” and new

72. “Two Prisoners Here Would Undergo ‘Truth Serum’ Test,” *St. Louis Post-Dispatch*, 9 June 1924, p. 2. Similarly: “the operation of the drug scopolamin is to so deaden the volition as to render the subject too lazy to invent lies, it is claimed, thus producing the truth” (ibid.).


74. Cattell, “Measurements of the Accuracy of Recollection” (n. 26).

changes were always “measured” against those that came before: “By means of perpetual alterations in position we are always building up a postural model of ourselves which constantly changes.”76

This was an early marker of an understanding of memory that was far more constructivist than the previous notion of traces. The cerebral cortex was still represented as a “storehouse of past impressions,”77 but the notion of “schemata” evoked something in continual flux, thereby doing away with the possibility of literal recall. Theories of memory became more dynamic and constructivist within this research community over the next couple of decades. By 1932, the Cambridge psychologist Frederick Bartlett was thus criticizing even Head for not taking a more reconstructivist stance. Bartlett presented remembering and imagining in terms that made them very similar activities, and affirmed categorically that “remembering appears to be far more decisively an affair of construction than of reproduction.”78 The explanations associated with truth serum therefore ran increasingly counter to the grain of academic psychology—and this accentuated a preexisting divergence between public and academic representations of memory and psychological truth.

A “Harmless Third Degree”

Truth serum eventually became identified with involuntary confessions wrung from unwilling subjects; but this was not its initial purpose. House himself regarded the serum as an important tool for compelling honesty in institutions as much as individuals. The vindication it could offer to the falsely accused would, he thought, force transparency on a corrupt criminal justice system poisoned by a culture of graft and private deals.

77. Ibid., p. 607.
House offered “truth serum” as a kind of social astringent to a society deeply concerned about corruption, particularly in members of powerful institutions, both public and private. Such a claim made his lack of credentials and institutional affiliation into an advantage of a different order: he was not tainted by the very culture that he claimed his new technique had the potential to reform.

Public culture was ripe for a claim of this kind in the 1920s. The police and judicial systems drew accusations of pervasive graft associated with the illicit alcohol trade. The result was both a pattern of false prosecutions and a failure to call serious criminals to account. Lawyers, for both the prosecution and the accused, could not be relied upon to act ethically; witnesses could not be relied upon to tell the truth, because of either bribes or fear; and the police, who came in for the most intense criticism, were lambasted for embracing the so-called third degree in their techniques for interrogating suspects.79

Throughout the first third of the century there were claims that torture had been so institutionalized as to have become routine in urban police stations.80 The “third degree” became a byword for this endemic practice, referring both to interrogation techniques and to physical acts of coercion.81 The New York Times described one case in which the suspect was made to wear the victim’s blood-soaked clothes, and was told that he would “go to hell” unless he confessed.82 Such reports confirmed the existence of an understanding that speech could be aggressive in much the same way as could an act of physical torture, and that the one might be almost as reprehensible as the other.

This representation provided a foil for the development of more “humane,” and arguably more finely calibrated, scientific techniques for the extraction of honest testimony, and truth serum was not the first technique to be represented in this way. Münsterberg had earlier expressed the hope that word-association tests would take the place of brutal interrogations, providing a humane, yet inexorable, truth technique.83 Lie-detection technologies were also represented as a nonvio-


83. Münsterberg, On the Witness Stand (n. 75), pp. 94–100.
lent way of securing, as well as evaluating, an individual’s testimony. In this climate “truth serum” was powerfully represented as a sophisticated, scientific, and nonviolent alternative to unsavory police methods.

But even those who were willing to grant its potential efficacy did not necessarily concur that truth serum was, as House claimed, a “harmless” alternative to the third degree. George W. Kirchway, ex-dean of Columbia Law School, bluntly described it as “a mild form of torture”; even if it worked, its use would violate two pillars of common law: “that the accused person may not be questioned after arrest or during a magisterial hearing,” and that “torture may not be used to extort the truth.” Similarly, the response of the editorial page in a leading British medical journal was “instinctive” revulsion: “To dope a man into confession would be as distasteful as to extract evidence by torture.”

House himself had a more radical notion: He thought the criminal justice system itself was sick; scopolamine offered a vaccine that would immunize people entering the system. Regarding interrogation techniques, he spoke of the “Third Degree of today” as residing on a faulty “principle”: the “zealous peace officer . . . goes to such brutal and unwarranted lengths to get confessions, as to destroy the value of what he seeks so hard to obtain.” He quoted a common saying about the police: “They go after confessions and get them, sometimes true, sometimes false; but they always get confessions.” Desperation to secure a statement, regardless of its truth, had poisoned the legal process, because the public was aware of it, and juries who heard any mention of the “third degree” in court proceedings then returned an acquittal. House claimed that his work revealed a staggering degree of corruption within the police and courts, and a horrifyingly high number of wrongful convictions. The scopolamine test would bring these to an end. It would ensure that “there is no justification for any person to be convicted upon

88. Ibid. The House experiments probably gained some measure of interest from the fact that the Leopold and Loeb trials were ongoing at the time. On Leopold and Loeb, see Hal Higdon, Leopold and Loeb: The Crime of the Century (Urbana: University of Illinois Press, 1999); Maureen McKernan, The Crime and Trial of Leopold and Loeb (London: Allen & Unwin, 1925).
circumstantial evidence, nor any excuse for the [use of] third degree methods, nor any excuse for the State to permit a suspect to turn State’s evidence” (House claimed that he had never encountered a truthful individual who had turned State’s evidence).89 Truth serum would prevent false confessions—and would thereby reveal the extent of corruption in any specific context, as well as remediating it. It supplied both diagnosis and cure.

By the late 1920s, House seemed set to lead a major effort to explore the possibilities of truth serum for reforming police practices. His technique was making inroads into forensic research, as I will discuss below, and there were calls to fund a research institute where he could supervise an organized study of truth serum drugs.90 But in 1929 he suffered a massive stroke, and he died in 1930. Scopolamine immediately lost its most energetic advocate. The development of truth serum then took a different course entirely.

Getting the Confession

Truth serum came to have a different set of associations in the 1930s, in the hands of forensic professionals engaged in an aggressive attack on organized crime. Its purpose was now to secure confessions from recalcitrant criminals, rather than to vindicate the falsely accused. The concept of truth serum as a tool for wringing information out of resistant minds drew on assumptions similar to House’s, regarding automatic thinking, but with a different emphasis. The idea that in certain circumstances thinking could be a simple reflex arc relied on the notion of the will as a censoring influence—an obligatory passage point or filter that could withhold information from the external world; it was the existence and power of the will in one’s ordinary state of mind that allowed for the possibility of reflexive communication in circumstances when the will, or volition, could be suspended. In House’s work, the suspension of the will was a means of confirming that one’s will was aligned with one’s self-representation; in the more combative formulation of truth-serum techniques, the assumption was that the will was an oppositional power that had to be removed before a concealed truth could be exposed.

Truth serum became a means of consolidating the powers of an authoritative police and judiciary, rather than a tool for reforming them. Along with the celebration of drugs’ power to “get the confession”

consequently came more anxious reflections about the implications for
civil liberties and personal privacy. It was in the 1930s that “truth serum”
came to have its enduring association with abusive interrogations and
involuntary confessions.

One factor in this transformation was the work of the Scientific Crime
Detection Laboratory (SCDL) at Northwestern University, founded in
1929 in the wake of the St. Valentine’s Day Massacre. During the 1930s
the SCDL was a flagship institution in forensic science, part of a broader
development of specialist laboratories and forensic techniques, which
saw an influx of medical expert witnesses into the criminal justice system
and an increasing enthusiasm among police officers for “scientific” tech-
niques.91 In the first two decades of the century several major forensic
laboratories had been founded, especially in San Francisco, New York,
and Chicago. These institutions made the first laboratory tests of the
polygraph and of hypnosis; they developed techniques for chemical,
fiber, and ballistic analysis; and they found new ways of evaluating finger-
prints. Forensic specialists from these laboratories formed a new cohort
of expert witnesses who sought to admit into court proceedings new ways
of evaluating evidence. Landmark legal rulings of the 1920s came about
partly as a result of the challenges brought by these new forensic tech-
niques, and partly from efforts to attain a new balance between the ways
in which evidence could be obtained and the rights of the accused to a
fair trial. The most famous of these included the Frye ruling (against the
use of the polygraph) disallowing techniques that had not yet attained
general scientific acceptance, and the “exclusionary rule” disallowing the
use of illegally obtained evidence in criminal trials. In less than two
decades the entire framework of relations between legal and scientific
expertise was transformed.

The Northwestern laboratory saw itself as occupying a pivotal role in
deploying state-of-the-art scientific techniques and instruments to help
Chicago realize its potential as a world city and a scientifically cutting-edge
metropolis. It saw forensic tools and techniques—including truth serum—
as extensions of legitimate, expert authority, arrayed against a legitimate
target body of straightforwardly criminal “elements.”

In this context, even the “third degree” could be represented as a
scientific technique. It was a collection of precise psychological techniques

91. See, e.g., Herman Alder, “The Interests of Psychiatry in Criminal Procedure,”
Represent. Amer. Bar Assoc., 1922, 16: 629–33, which argued for a pivotal role for psychiatrists
in understanding criminal evidence in interrogation. On police attitudes to new tech-
niques and technologies, see Barbera, “Scientific to the Last Degree” (n. 20), pp. 30–35, 130–34.
designed to weaken the nervous system so greatly that it could not withhold information. One author wrote that in “popular” language it was a scientific way of “getting on one’s nerves.” Truth serum was claimed to achieve by the immediate action of a chemical preparation what the third degree sought to secure using verbal, social, and physical pressures: an alteration in nervous functioning, leading to an honest statement. A leading figure in the Northwestern laboratory, Fred Inbau, aligned scopolamine interviews with police interrogations: “The police-man with his ‘third degree’ and the scientific investigator with his ‘truth serum’ are both working toward a common objective.”

The work carried out by the SCDL was critical in enhancing scopolamine’s, and later other drugs’, plausibility as producing truthful information. Key researchers were the chemist Clarence Muehlberger, the ballistics expert Calvin Goddard (then head of the laboratory), and the lie-detector expert Leonard Keeler. One of the early experiments at the laboratory lent particular support to the validity of scopolamine. A test group of students and staff were requested to list twenty questions they would be asked under the influence of scopolamine, and to record the true answers—thereby creating a means of calibration for each test subject. Then the subjects attempted to lie when they were asked these questions after the drug had been administered. The results, as they were recorded in published accounts of the case, gave the drug a nearly perfect score: every answer on every list matched those in the original sets of questions, with the exception of a single answer to a single question. Such a small degree of error was, of course, striking—but the experiment turned out to have been even more successful than was initially appreciated, because the solitary mismatched answer was in fact a true statement. The question had been “Were you ever arrested for a motor vehicle infraction?” The subject recorded “no” initially, then “yes” during the scopolamine interview. After he recovered from the effects of the drug, he was asked about the discrepancy. He reportedly answered with some embarrassment that yes, his drugged answer was correct: he had forgotten, when he composed his list of questions, that many years earlier he had indeed been arrested while driving. The story supplied an elegant piece of support for scopolamine’s advocates.

Northwestern also used truth serum in its investigation of criminal

cases. One of its biggest early successes involved a man accused of the murder of his lover’s husband in 1934. The man agreed to take a scopolamine test, and while under its influence, he was asked what he “did with his pistol”; he replied that he “threw it into a river.”95 This was a confusing reply, since the body had been found in bed with the gun beside it. When the question was repeated, he elaborated, saying he “hid the gun in a patch of heather in a town in Ontario, Canada. Concerning the present crime, however, he continued to profess his innocence.”96 The police subsequently checked with officials in Canada, whereupon they learned that he was wanted for several murders.97

This and several other high-profile cases gave truth serum a controversial, and highly visible, role as a potential truth technique, and helped associate it with an armory of powerful forensic tools. For instance, the Century of Progress Exposition held in Chicago in 1933–34 featured, among the five stalls of its “Police exhibit,” a “physiological laboratory” stocked with lie-detector devices and, at some point during the fair, a staged series of tests, including demonstrations of truth serum by Muehlberger.98

The SCDL was intent not just on boosting the reputation of its new tools, but on training the police and legal communities to respect and use them. In this capacity truth serum was described in the standard training manual, as well as in syllabi for lectures given by Keeler, Inbau, and others, as an effective tool for securing confessions. The laboratory was extremely energetic in these training and demonstration programs, and, partly through its activities, a new generation of law-enforcement professionals was given a small dose of truth serum along with its more general forensic training.99

98. According to publicity photographs in “Science Puts an End to ‘Perfect Crime,'” World’s Fair Weekly, week ending 17 June 1933. On the staged tests, and for more on the involvement of the SCDL in the Century of Progress Exposition, see Barbera, “Scientific to the Last Degree” (n. 20), pp. 45–50.
99. Outline of Scientific Criminal Investigation (Ann Arbor: Northwestern School of Law, 1936), p. 43. House’s papers were listed on the syllabi, as was the published record of the Hudson case. For instance, there is a reference to House’s paper, “The Use of Scopolamine in Criminology,” Amer. J. Police Sci. (n. 46), under the section heading, “Laboratory Methods of Scientific Proof,” Northwestern University Archives, Series 17/20, Evanston, Ill. For public discussion of the use of truth serum by the SCDL, see “Test Truth Drug to Obtain Facts from Criminals,” Chicago Tribune, 5 April 1931, p. 21.
There are accordingly signs that truth drugs were being used regularly by police during the 1930s. The Wickersham Commission’s report on police behavior stated that criminal suspects were given scopolamine (along with “tear gas” and chloroform) to elicit confessions. One member of the police force noted that the mere threat of such a test could secure a confession:

one department demonstrated to suspects just how the drug was administered, and went on to explain just how it worked. . . . If the suspect said that they couldn’t force him to submit to the drug, it was pointed out that the drug also worked when the suspect was first rendered unconscious by chloral hydrate . . . placed in his coffee or drinking water. In many instances, the terrified suspect talked to avoid being tested with the truth serum.¹⁰⁰

The Northwestern laboratory was celebrated for its ability to use science to “get the confession” without physical intimidation. The phenomenon documented by the various techniques of medical forensics was the involuntary trace: “no matter how sternly or skillfully [the culprit] represses every outward sign of guilt,” wrote journalist Henry Morton Robinson in the Forum, “he cannot prevent the involuntary mustering of interior forces.”¹⁰¹ Robinson unashamedly described scopolamine as “a mysterious elixir that gets the whole story and gets it straight”; it did so, he argued, by “submerging” that part of the brain that was “normally used in fabricating self-protective stories—in plain language, lies.”¹⁰² And so it was established that “a person under the influence of scopolamine is in full possession of all his senses, but deprived of the power of inventing falsehoods.”¹⁰³ The Forum’s portrait of the power of modern forensics painted science as a delicate yet powerful instrument, replacing the blunt force of the cudgel or rubber hose. Robinson was the most uncritical of scopolamine’s supporters, however, and the drug’s potential as a “truth serum” provoked much skepticism regarding both the validity of the information gained and the ethics of using such a technique.

Conclusion: The Transformation of Falsehood

By the time House died, he was recognized by membership in several national forensic and criminal justice authorities.¹⁰⁴ Not only had truth

¹⁰². Ibid.
¹⁰³. Ibid.
¹⁰⁴. House was given honorary memberships in the National Police Commission, the Internal Bureau for Identification, and the Texas Sheriffs’ Association.
serum entered the popular imagination as a tool in the detective’s arsenal—as is indicated by its appearance in highly public portrayals such as *Dick Tracy* (Fig. 1), but it was also being taught by leading forensics laboratories. Its ascent during these years has something to tell us about the categories of “expert” and “popular” knowledge in a period of rapid disciplinary formation and professionalization in all the communities.

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Fig. 1. *Dick Tracy* comic strip, 1933. Tracy responds to a suspect’s request for drugs with an order to give him scopolamine. *Dick Tracy* was a popular cartoon among police in the 1930s, and this episode places scopolamine among the new powerful and stylish scientific tools available for use against crime. From the *Chicago Tribune*, 19 September 1933, p. 23. Copyright, Tribune Media Services, Inc. All Rights Reserved. Reprinted with permission.
involved in this history—the psychological, medical, and forensic sciences, and the police communities. The assumption promoted by the new laboratories and departments of psychology was that trustworthy knowledge of the human mind and human behavior could be made only there, and only by individuals trained to ask questions and make disciplined observations in the ways they sanctioned. The goal of laboratory psychology was to “objectify” the human mind. The drive for professionalization led to campaigns against illegitimate practices and practitioners by putative field leaders (for instance, the many campaigns waged by the American Medical Association against “quacks” and “quackery,” not least against twilight sleep itself).

But House had never seen a psychological laboratory and was not making claims that fell within his ostensible area of medical expertise (obstetrics). The basis of his expertise was a brief stint of clinical training, and the foundations of his knowledge-making were his relationships with patients. The fact that someone with such credentials could enjoy the welcoming reception that House did suggests a greater degree of openness, and a flexibility in the conventions regarding where important new knowledge could come from and who would produce it.

This does not mean that just anyone could come out of nowhere—as House virtually did—and be taken seriously. House was an educated man and a member of the professional classes, and his business was the management of the human body. But even so, his distance from the world of academic psychology and forensic work suggests that expertise was a more inclusive, malleable, and mobile form of categorization in this period than it would eventually become after disciplinary boundaries and professional codes took firmer shape in later decades. One indication of this is Marcel Lafollette’s observation that scientists writing for the public often claimed expertise far outside their areas of professional accreditation.\textsuperscript{105} This may have been an expression of a more general phenomenon, at least in relation to the psychological fields, such that someone from the educated classes could lay claim to expertise by inventing a new technology, technique, or way of approaching a recognized problem, or by addressing a new audience (as in the case of broadcasters).

While the fluidity of expertise may have decreased, the career of truth serum itself since the 1930s has not been one of increasing legitimacy or acceptance—or for that matter, of secular decline. On the contrary, it has attracted consistent controversy, recurrent rejection, and also recurrent

\textsuperscript{105} Lafollette, \textit{Making Science Our Own} (n. 3), p. 101.
resurgence. It has maintained a consistent, sometimes prominent, life in the popular imagination, with a continuous role in feature films, television, and novels. Its plausibility as a practical tool for extracting truthful memories has spiked at various times of urgency: in the Second World War, when truth drugs became central to the military treatment of battle trauma; in the late 1970s, when a generation of police seized upon forensic hypnosis and hypnotic drugs as tools for refreshing witnesses’ memories; and in the 1980s and 1990s, when psychotherapists and their adult patients sought the “recovery” of lost memories of childhood sexual abuse. Its liminal existence, linked but nevertheless marginal to the careers of other forensic tools, has waxed and waned with the exigencies of the past century—with the intensity of longing that people have felt, in various circumstances, for degrees and kinds of personal memory.

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