

Dangerous Women and Reasonable Men:  
Gender and Eyewitness Testimony at the turn of the  
Twentieth Century

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## **Abstract**

The application of the scientific method to questions of human behaviour and abilities in the late nineteenth century allowed for the validation or contestation of ideas about female intellectual and biological inferiority. The convergence of traditional common sense understandings and experimental findings as forms of evidence of women's unreliability can be observed in texts on witness psychology. This discourse was multi-disciplinary and international, with psychologists, lawyers, jurists and criminologists in Western Europe and North America engaging with each others' work. They produced articles in disciplinary and popular journals, as well as books and compilations; at times collaborating with one another and at others competing over intellectual territory and expert status. This thesis examines the ways in which gender difference was portrayed in areas pertaining to witness reliability – perception, recollection, and honesty. It examines the connection between women's lesser position in society and their portrayal as inferiors in intellectuals' conceptions of reliability. Academia was overwhelmingly male in the period under discussion – 1880 to 1920 – and this dominance, combined with patriarchal conceptions of women, privileged the male as 'normal', while portraying women as mentally deficient. The thesis also assesses the ways in which feminist movements enabled women to pursue academic careers, and how their research on gendered mentality eventually began to challenge the dominant narrative of female witness unreliability.

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## Introduction

“The boy just growing out of childhood, in so far as he has been well brought up, is especially the best observer and witness there is...while the girl of the same age is often an unreliable, even dangerous witness.”<sup>1</sup>

Austrian criminal jurist Hans Gross wrote the words inscribed above in 1898 when musing on the drawbacks of relying on a young girl’s testimony in criminal cases. His insights into the relationship between gender and witness reliability reverberate throughout many other intellectual texts published at the turn of the twentieth century. Regardless of the disciplinary origins of the author – whether it was in psychology, criminology, law, or the physical sciences – their texts display a shared understanding that men were more reliable than women. This thesis examines scholarship published within Western academia that considered topics pertaining to witness reliability – memory, perception and honesty – and will assess how academics constructed the idea of ‘the witness’ around the image of men as the reliable assessors of the world, and women as untrustworthy and inherently unreliable.<sup>2</sup>

The turn of the twentieth century saw significant changes in how Western society functioned and the ways in which intellectuals understood these functions. The rise of social movements in North America and Europe challenged the existing social structure that privileged upper-class white men above all others. In the North American context, the aftermath of the

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<sup>1</sup> Hans Gross, *Criminal Psychology: A Manual for Judges, Practitioners, and Students*, trans. Horace M. Kallen (Boston: Little, Brown and Company, 1918), 366.

<sup>2</sup> Stephanie A. Shields, “Passionate Men, Emotional Women: Psychology Constructs Gender Difference in the late 19th century,” *History of Psychology* 10 (2007): 97.

Civil War (1861–1865) saw the establishment of first wave feminism, the early black civil rights movement, and employment unions.<sup>3</sup> In Western Europe these organized groups also appeared with similar goals, aiming to reduce social inequalities based on gender, race or class.<sup>4</sup> They campaigned to secure safe working conditions (in the case of unions) or to acquire the political, educational and legal rights already available to upper class white men.

At the same time that these movements were gaining support, the application of scientific method to social and psychological questions in universities across Western Europe and the United States changed intellectual conceptions of validity, truth and faith.<sup>5</sup> The proliferation of Darwinism and the consequent emergence of social Darwinism, wherein Darwin's theory of evolution was applied to the human race, were used to validate existing hierarchical social structures that were the product of centuries of religious, political and economic prejudice.<sup>6</sup> The two opposing discourses on social order – the ground level resistance of social movements and the intellectual reinforcement of existing structures – converged at the turn of the century, where post-suffrage women gradually secured

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<sup>3</sup> Shields, "Passionate Men, Emotional Women," 104.

<sup>4</sup> Myra Marx Ferree, "Inequality, Intersectionality and the Politics of Discourse," in *The Discursive Politics of Gender Equality*, eds. E. Bomardo et al. (London: Routledge, 2009), 91; Eileen Hunt Botting, Christine Carey Wilkerson and Elizabeth N. Kizlow, "Wollstonecraft as an International Feminist Meme," *Journal of Women's History* 26 (2014): 21; Richard J. Evans, *The Feminist Movement in Germany* (London: Sage, 1976).

<sup>5</sup> Victoria Schuck, "Sexism and Scholarship: A Brief Overview of Women, Academia, and the Disciplines," *Social Science Quarterly* 55 (1974): 575.

<sup>6</sup> Stephanie Shields, "Functionalism, Darwinism, and the Psychology of Women: A Study in Social Myth," *American Psychologist* 30 (1975): 739; Henry L. Minton, "Psychology and Gender at the Turn of the Century," *American Psychologist* 55 (2000): 613.

admittance to universities where they published critiques of the status quo and its narrative of 'male superiority.'<sup>7</sup>

An academic discipline where the conflicting strands of social validation and critique could be observed was in psychological studies of the witness. The psychology of testimony emerged around 1880, almost immediately after the formation of experimental psychology as a discipline separate to philosophy. It developed as a study of behaviours relevant to court procedure, researching accuracy of memory, perception and recollection of the "normal" person, as well as the impact of suggestive questioning methods and patterns of dishonesty. These studies contributed to existing legal discourses to offer a scientifically based understanding of witness psychology.

Despite academia's commitment to scientific practice and its supposed impartiality, academic understandings of the witness were infused with personal beliefs and experiences. The male-dominated psychological discipline reiterated and reinforced societal prejudices, particularly those pertaining to the mental superiority of their sex.<sup>8</sup> As historian Victoria Schuck wrote, "the new disciplines supported by the new scientific method had... little to offer woman; they either ignored the subject or stuck to the moral philosophers' image of her."<sup>9</sup> Studies of witness reliability conformed to this pattern. Most studies of witness reliability between 1890 and 1920 used a generalized understanding of memory that relied on the adult white

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<sup>7</sup> Shields, "Passionate Men, Emotional Women," 104–105.

<sup>8</sup> Shields, "Functionalism, Darwinism, and the Psychology of Women," 744; Minton, "Psychology and Gender," 613.

<sup>9</sup> Schuck, "Sexism and Scholarship," 573.

male as representative of a wider whole.<sup>10</sup> They referred to gender differences very briefly, often just one or two sentences acknowledging that differences did exist and they were to the detriment of women's reliability.<sup>11</sup> Very few scholars undertook research with the explicit purpose of exploring to what extent, and under what conditions, such variance occurred.

An alternative discourse that acknowledged gender differences and did so in a way that did not condemn women to biological inferiority was only developed once female scholars that were involved in other sub-disciplines, particularly the psychology of education and child psychology, published studies on similar topics such as memory and honesty.<sup>12</sup>

### **Professionalisation of Psychology**

Universities during the nineteenth century witnessed the process of professionalisation whereby disciplines drew upon modern organizational and administrative systems to differentiate their knowledge from those of "amateurs."<sup>13</sup> As George M. Beard (1839–1886), an American neurologist, wrote, "All modern science is the product of exclusively expert evidence: until an expert develops, there can indeed be no science."<sup>14</sup> This process spurred competition between university disciplines as well as independent organizations, such as religious groups, over the control of knowledge.

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<sup>10</sup> Examples include; James McKeen Cattell, "V.-Mental Tests and Measurements," *Mind* 15 (1890): 373–381; Alfred Binet, *La Suggestibilité* [On Suggestibility] (Paris: Schleicher, 1900); Otto Lipmann, "Pedagogical Study of Report," *Journal of Educational Psychology* 2 (1911): 253–261.

<sup>11</sup> See Münsterberg, *On the Witness Stand*, 56.

<sup>12</sup> Schuck, "Sexism and Scholarship," 573.

<sup>13</sup> Examples include competition between intellectual labour and manual labour, as well as tensions within the medial discipline between surgeons and physicians; Thomas F. Gieryn, "Boundary-Work and the Demarcation of Science from Non-Science: Strains and Interests in Professional Ideologies of Scientists," *American Sociological Review* 48 (1983): 781.

<sup>14</sup> George M. Beard, "The Scientific Study of Human Testimony," *Popular Science Monthly* 13 (1878): 55.



For psychologists, this meant that in order to receive funding and establish themselves as a discipline separate from psychology, they needed to assert themselves as experts on human behaviour and the mind. To achieve this involved two primary steps. Firstly, they needed to separate themselves from psychology's traditional methods and accentuate their experimental research. Secondly, psychologists had to seek "social subsidization," meaning that they needed to frame their research as valuable to social issues, which would ensure the funding for facilities and scholars that was needed for professionalisation.<sup>15</sup>

It was necessary for psychologists to break away from their traditional methods in order to establish themselves as experts in the contemporary scientifically based world. In the nineteenth century, experimentation and scientific method were perceived as synonymous with progress. Psychology's traditional methods of understanding the human mind were qualitative, relying on evidence such as observation and introspection.<sup>16</sup> Philosophical psychology drew on anecdotal evidence such as personal experiences, societal norms, and literary examples, to create an understanding of the mental world that reflected the values of their societal one.<sup>17</sup> However, faced with society's new scientific standards, psychologists needed to incorporate experimental and quantitative evidence into their work in order to secure their discipline a place in this competitive context.<sup>18</sup>

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<sup>15</sup> Thomas M. Camfield, "The Professionalization of American Psychology, 1870–1917," *Journal of the History of the Behavioural Sciences* 9 (1973): 66.

<sup>16</sup> Camfield, "The Professionalization of American Psychology," 72, 73.

<sup>17</sup> George Mandler, *A History of Modern Experimental Psychology: From James and Wundt to Cognitive Science* (Boston: MIT Press, 2007), xvi.

<sup>18</sup> Tal Golan, *Laws of Men and Laws of Nature: The History of Scientific Expert Testimony in England and America* (Cambridge, MA: Harvard University Press, 2004), 220.

Wilhelm Wundt (1832–1920), one of the founders of experimental psychology in Germany, described the goal of his discipline as taking “the middle ground between scientific reductionism and speculative philosophy.”<sup>19</sup> After witnessing the success of institutionalized sciences within the university system, particularly chemistry and physiology, philosophers and physical scientists began to explore how scientific methodology could be applied to understanding the human mind and behaviour.<sup>20</sup> This process was made more urgent because other disciplines with similar subject matter, such as psychiatry, were quick to contrast their expertise with psychology’s supposedly pseudoscientific practices.

The most common year associated with the “birth” of psychology as a scientific discipline is 1879, when Wundt founded the first continuously operating psychological laboratory in Leipzig.<sup>21</sup> However, the publication of several earlier studies suggests that it is problematic to assign this, or indeed any other year, as the discipline’s exact birth date. William James’s (1842–1910) experimental demonstrations performed at Harvard in 1875 and those undertaken by Francis Nipher (1847–1926), a physicist, on memory in 1876 and 1878 show that psychologists had begun to use scientific methods in America before Wundt’s laboratory was established.<sup>22</sup>

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<sup>19</sup> Golan, *Laws of Men and Laws of Nature*, 220.

<sup>20</sup> Eliot Hearst, “One Hundred Years: Themes and Perspectives,” in *The First Century of Experimental Psychology*, ed. Eliot Hearst (Hillsdale, New Jersey: Erlbaum, 1979), 12; Lothar Sprung and Helen Sprung, “History of Modern Psychology in 19<sup>th</sup> and 20<sup>th</sup>-century Thought and Society,” *International Journal of Psychology* 36 (2001): 366.

<sup>21</sup> Mitchell Ash, *Gestalt Psychology in German Culture, 1890 – 1967: Holism and the Quest for Objectivity* (Cambridge, Cambridge University Press, 1995), 17; Hearst, “One Hundred Years,” 20; Shields, “Functionalism, Darwinism, and the Psychology of Women,” 739; Mandler, *A History of Modern Experimental Psychology*, xv.

<sup>22</sup> Hearst, “One Hundred Years,” 11, 20.

Additionally, several German scientists published experimental research dating from the 1830s on psychological topics such as human reaction time and tactile sensitivity.<sup>23</sup> These scientists expressed no specific aspiration to establish experimental psychology as a separate discipline, as their contributions were the result of similar research interests to traditional philosophy.<sup>24</sup> Therefore, while the first laboratory specifically dedicated to experimental psychology was not established until 1879, academics from both sides of its disciplinary influences – philosophy and the physical sciences – had already contributed several studies to its discourse in the preceding decades.

The founding contributors to experimental psychology came largely from scientific rather than philosophical intellectual backgrounds.<sup>25</sup> Their interest in witness psychology was generally peripheral to other scientific interests. For example, Beard, despite his focus on neurology, published four monographs during the 1870s that were directly relevant to the psychology of testimony.<sup>26</sup> Wundt and Alfred Binet (1857–1911) likewise had backgrounds in physiology. The discipline's youth meant that its boundaries only slowly became defined during the period under discussion, and while this process was occurring it borrowed from disciplines with a similar methodology and scholars with converging interests. Thus, when using the

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<sup>23</sup> Hearst, "One Hundred Years," 20; F. Donder's experiments into human reaction time are dated approximately 1865 and E. H. Weber's studies into tactile sensitivity were undertaken during the 1930s.

<sup>24</sup> Ibid., 20.

<sup>25</sup> Sprung and Sprung, "History of Modern Psychology in Germany," 366.

<sup>26</sup> George M. Beard, *Legal Responsibility in Old Age, Based on Researches into the Relation of Age to Work*, New York: Russells' American Steam Printing House (1874); Beard, "Scientific Study of Human Testimony," 53–388; George M. Beard, "The Psychology of Spiritism," *The North American Review* 129 (1879): 65–80; George M. Beard, "Experiments with Living Human Beings," *Popular Science Monthly* 13 (1879): 611–757.

term “experimental psychologist”, this thesis is referring to any scholar that undertook psychological research using experimental methods, regardless of their intellectual background.

### **Witness Reliability as a Psychological Issue**

From experimental psychologists’ need to professionalise emerged an interest in witness reliability. In the discipline’s infancy, universities were unconvinced that experimental methods would produce relevant information on the human mind. Psychology did not have the same level of prestige as the physical sciences, such as chemistry and physics, which directly impacted the level of funding and resources available.<sup>27</sup> By researching areas that were applicable to practical social problems, such as witness reliability, psychologists were trying to prove their discipline’s relevance beyond an academic context, and in doing so ensure that they received enough support and funding to continue their studies.<sup>28</sup>

Psychologists’ need to professionalise their discipline came at a time when ideas about criminality were changing. The new psychological analysis of the witness that emerged in the 1880s was born out of dissatisfaction with the contemporary focus on the ‘born’ criminal, an idea promoted by Italian criminologist Cesare Lombroso (1835–1909).

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<sup>27</sup> Demonstrative of experimental psychology’s lesser status as an independent discipline is that it continued to be administered as a sub-specialty of philosophy in German universities for several decades after the turn of the century. Heather Wolfram, “Parapsychology on the Couch: The Psychology of Occult Belief in Germany, c. 1870–1939,” *History of the Behavioural Sciences* 42 (2006): 240; Deborah J. Coon, “Testing the Limits of Sense and Science: American Experimental Psychologists Combat Spiritualism, 1880–1920,” *American Psychologist* 47 (1992): 146.

<sup>28</sup> As Stern wrote in 1910, the purpose of Applied Psychology was to “to gather such psychological information as will serve other sciences and especially the practical cultural activities of Education, Law and Medicine.” William Stern, “Abstracts of Lectures on the Psychology of Testimony and on the Study of Individuality,” *The American Journal of Psychology* 21 (1910): 270.

Dissatisfaction was driven by the theory's reliance on physical traits as indicators of a criminal nature, which was easily challenged by the frequent existence of supposed "criminal" attributes on "normal" people.<sup>29</sup>

Researchers with an interest in the intersection of psychology and crime broadened the subject of their studies, choosing to focus on all those involved in the legal process, including criminals, investigators, judges, juries and witnesses.<sup>30</sup> Psychological studies in this area proved not only the mental normality of most criminals, but the fact that normal, healthy witnesses tended to produce unreliable testimony.<sup>31</sup> Because the legal system was heavily dependent on witness testimony to reach verdicts, this intellectual development led to a crisis of credibility, beginning a dialogue between psychologists, psychiatrists, lawyers and lay people over the nature of eyewitness error.<sup>32</sup>

The discipline's future and scientific reputation became more uncertain with Spiritualism's increased popularity from the 1860s onwards. Spiritualism was the belief in a tangible connection between the worlds of the living and dead, which allowed the two to communicate with one another.<sup>33</sup> Spiritualists' claims were contrary to those of the physical sciences, but their methods of proving the existence of paranormal

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<sup>29</sup> Neil Davie, "Criminal Man Revisited? Continuity and Change in British Criminology, c. 1865–1918," *Journal of Victorian Culture* 8 (2003): 6.

<sup>30</sup> Hans Gross, "Kriminalpsychologische Aufgaben," in *Gesammelte Kriminalistische Aufsätze* [*Collected Criminal Papers*] (Leipzig: Vogel, 1902), 160.

<sup>31</sup> Cesare Lombroso, *Criminal Man*, eds. M. Gibson & N. H. Rafter (Durham, NC: Duke University Press, 2006).

<sup>32</sup> Hugo Münsterberg, *On the Witness Stand*, (New York: Doubleday, 1908), 4.

<sup>33</sup> Heather Wolfram, *The Stepchildren of Science: Psychical Research and Parapsychology in Germany, c. 1870*, (New York: Editions Rodopi B.V., 2009), 50.

phenomena were similar to those of experimental psychology.<sup>34</sup> This association threatened psychology's budding reputation as a legitimate scientific discipline. In the course of discrediting the belief system, psychologists in both the United States and Germany began to test the reliability of perception, aiming to show that what is seen is not always reality, and in doing so created the foundation on which the psychology of testimony would grow.<sup>35</sup>

The invention of modern technology also raised questions about eyewitness accuracy and created a demand for a separate psychology of testimony. The invention and production of new media technologies in the latter half of the nineteenth century, such as the camera and phonograph, enabled people to record, re-live, and share their experiences in unprecedented ways.<sup>36</sup> These technologies redefined how people connected with the past because they offered a perspective outside of human memory that could challenge or reinforce people's own understandings. For many, the idea that their memories did not correspond exactly to reality was completely foreign and was only questioned with the invention and use of new media technology. In response to the public's new understanding of, and interest in, memory, psychologists used their methods to systematically test witness accuracy and offer quantitative results.

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<sup>34</sup> Michael Petit, *The Science of Deception: Psychology and Commerce in America* (Chicago: University of Chicago Press), 87.

<sup>35</sup> Examples of early studies on perception include; George Beard, "Experiments with Living Human Beings," 611–757; Max Dessoir, "Die Parapsychologie," *Sphinx* 7 (1889): 341–344; Wolfram, "Parapsychology on the Couch," 237–60.

<sup>36</sup> Alison Winter, *Memory: Fragments of Modern History* (Chicago: The University of Chicago Press, 2012): 3.

## Disciplinary Disputes

As psychological discourse on witness reliability became more detailed, psychologists began to assert themselves within the legal system, a move that was viewed mostly negatively by jurists, the established experts of the time.<sup>37</sup> While psychologists believed that their studies on perception, memory, recollection, and truth telling would help to secure more accurate verdicts, jurists were reluctant to apply generalized data to individual cases.<sup>38</sup> While jurists were generally aware of the experiments being undertaken and their subsequent results, they believed that the experiments were too far removed from the real experience of being a witness to offer any reliable knowledge, and their own established methods of analysing witness reliability were superior.<sup>39</sup>

Jurists also argued that the evaluation of witness testimony rarely, if ever, impacted the verdict of a trial. The legal system had come to rely more on physical forms of evidence, such as photographs and objects from the crime scene, as they were considered less subjective than witness testimony and thus more reliable.<sup>40</sup> However, despite the increased reliance on physical traces of a crime, in many cases witness testimony was the only evidence available and courts were confronted with deciding which witness

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<sup>37</sup> James M. Doyle, *True Witness: Cops, Courts, Science, and the Battle Against Misidentification* (New York: Palgrave Macmillan, 2008), 9–34.

<sup>38</sup> Golan, *Laws of Men and Laws of Nature*, 212; Annette Mülberger, “Teaching Psychology to Jurists: Initiatives and Reactions Prior to World War I,” *History of Psychology* 12 (2009): 78.

<sup>39</sup> Charles C. Moore, “Notes on Current Topics: Yellow Psychology,” *American Law Review* 42 (1908): 440–444; John Wigmore, “Professor Muensterberg and the Psychology of Testimony,” *Illinois Law Review* 3 (1908): 416–422; Heather Wolfram, ““God Save Us From Psychologists as Expert Witnesses”: The Battle for Forensic Psychology in Early Twentieth-Century Germany,” *History of Psychology* 18 (2015): 346; Siegfried Ludwig Sporer, “A Brief History of the Psychology of Testimony,” *Current Psychological Reviews* 2 (1982): 334.

<sup>40</sup> Ian Burney and Neil Pemberton, “Making Space for Criminalistics: Hans Gross and fin-de-siècle CSI,” *Studies in History and Philosophy of Biological and Biomedical Sciences* 44 (2013): 19.

to believe.<sup>41</sup> Thus jurists continued to seek more accurate methods of evaluating witness testimony despite their discipline's emphasis on physical evidence.

Although jurists' criticisms of experiments on witness accuracy suggest that they were unaccepting of psychological findings, there is nevertheless evidence that the relationship between the two disciplines was not entirely hostile. The development and use of reality-experiments, that is experiments intended to replicate actual acts of witnessing, engaged jurists' attention from 1901 onwards.<sup>42</sup> Several law professors conducted their own witness reliability experiments on their students to demonstrate the unreliability of memory.<sup>43</sup> Additionally, psychologists were called upon in legal cases under special circumstances, mostly in Germany, to give expert testimony.<sup>44</sup> For example, William Stern (1871–1938) testified in 1903 at the trial of a young boy who had claimed he was sexually abused.<sup>45</sup>

After the very public dispute in the United States between psychologist Hugo Münsterberg (1863–1916) and jurist John Wigmore (1863–1943) over the boundaries between their two disciplines, the interest in the psychology of testimony decreased sharply. Wigmore's scathing retort discouraged experimental psychologists from pursuing the kind of studies he had thoroughly criticised, and the number of studies undertaken in the

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<sup>41</sup> Cases involving sexual assault were particularly reliant on witness testimony, and these often involved weighing the reliability of testimony between men and women.

<sup>42</sup> Mülberger, "Teaching Psychology to Jurists," 69.

<sup>43</sup> Curt R. Bartol and Anne M. Bartol, "History of Forensic Psychology," in *Handbook of Forensic Psychology*, eds. Irving B. Weiner and Allen K. Hess (Hoboken: John Wiley & Sons, 1999), 6; Mülberger, "Teaching Psychology to Jurists," 69.

<sup>44</sup> Sporer, "A Brief History," 331.

<sup>45</sup> Sporer, "A Brief History," 331; Mülberger, "Teaching Psychology to Jurists," 67.



United States declined into the 1920s.<sup>46</sup> The psychology of testimony in Germany also witnessed a similar drop, and after many notable Jewish scholars, including Stern and Lipmann, were banned from teaching or access to Universities in the early 1930s, research almost completely stagnated.<sup>47</sup>

The temporal boundaries of this thesis conform to the rise and decline of the psychology of testimony's popularity – both within and outside of the discipline. It begins around 1880 when experimental studies on areas that would become relevant to the psychology of testimony – memory, perception, recollection, and honesty – started to be published, and laboratories began to be established. It ends at the beginning of the 1920s, with the sharp decline in public debate, intellectual dialogue, and experimental publications on witness reliability.<sup>48</sup>

### **Intellectual History: Geographic Boundaries**

The collation and dissemination of Western academic knowledge was becoming increasingly spread out at the end of the nineteenth century. Experimental psychology in particular had strong intellectual networks across Western countries, due largely to its infancy and its consequent lack of institutional frameworks. Laboratories and professors practising experimental methods were extremely rare during the 1880s, leading students from the United States and across Central Europe to Leipzig to learn from the only established psychological laboratory, that of Wundt, experimental psychology's "founder." The head of Psychology at Harvard,

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<sup>46</sup> Siegfried Ludwig Sporer, "The Science of Eyewitness Testimony Has Come of Age," *Psychological Science in the Public Interest* 7 (2006): i.

<sup>47</sup> Siegfried Ludwig Sporer, "Lessons from the Origins of Eyewitness Testimony Research in Europe," *Applied Cognitive Psychology* 22 (2008): 746.

<sup>48</sup> Bartol and Bartol, "History of Forensic Psychology," 11.

William James, sent his graduate students G. Stanley Hall (1846–1924) and James McKeen Cattell (1860–1944) to study at Wundt’s Leipzig laboratory.<sup>49</sup> Scholars from around Europe joined them, including Ernst Meumann (1862–1915), from Germany, Benjamin Bourdon (1860–1943), from France, and Albert Michotte (1881–1965), from Belgium.<sup>50</sup> During the 1880s, Wundt’s laboratory therefore functioned as the principal location to study experimental methods of psychology and it attracted scholars from various national backgrounds. This practice waned with the rise in interest in experimental psychology, as alternative laboratories and methodologies to Wundt’s became established, offering more diverse learning opportunities.<sup>51</sup>

This educational arrangement is significant because it illustrates how the discipline’s infancy created a close community of scholars. A lack of established laboratories brought the first students together despite their distant geographic origins. There they received standardized knowledge stemming from the same teacher and access to the same equipment, which they passed on to their own students in various locations.<sup>52</sup> Consequently, many psychologists spoke German, had personal connections with one another and kept up a regular correspondence. Münsterberg, for example, began his career in Germany and studied under Wundt. However, after

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<sup>49</sup> Paul Fraise, “The Evolution of Experimental Psychology,” in *Experimental Psychology: Its Scope and Method*, eds. Paul Fraise, Jean Piaget and Maurice Reuchlin, trans. Judith Chalmers (London: Routledge and Kegan Paul, 1968), 43; Camfield, “The Professionalization of American Psychology,” 67.

<sup>50</sup> Richard A. Littman, “Social and Intellectual Origins of Experimental Psychology,” in *The First Century of Experimental Psychology*, ed. Eliot Hearst (Hillsdale, NJ: Elbaum, 1979), 44; Fraise, “The Evolution of Experimental Psychology,” 19.

<sup>51</sup> For example, Münsterberg established his Freiburg laboratory in 1888, after which James began to send his students to study there instead of at Wundt’s laboratory. Henning Schmidgen, “Münsterberg’s Photoplays: Instruments and Models in his Laboratories at Freiburg and Harvard (1891–1893),” *The Virtual Laboratory. Essays* (2008), accessed September 18, 2016, <http://vlp.mpiwg-berlin.mpg.de/essays/data/art71>, 1–2.

<sup>52</sup> Mandler, *A History of Modern Experimental Psychology*, 75.

facing difficulties advancing through the rigid German university system, he relocated to the United States following an offer from James to establish the first psychological laboratory at Harvard.<sup>53</sup> At various times he corresponded with Stern, Cattell, Hall, Joseph Jastrow (1863–1944), and Otto Lipmann (1880–1933), among others.<sup>54</sup>

Historians writing on the psychology of testimony frequently focus on intellectual developments within one national context. Recent examples include Heather Wolffram and Annette Mülberger's articles, both of which look at the interdisciplinary tensions between forensic psychologists and jurists within Germany.<sup>55</sup> However, a study of all those contributing to the psychology of testimony at the turn of the century cannot be limited to one geographical location. The shared experience of early psychologists from a range of countries learning at Wundt's laboratory facilitated an academic culture where knowledge was diffused across borders. Academics were engaged with studies undertaken outside their own country, and translations of popular texts only further served to broaden the discipline. This thesis is structured around the concept of an intellectual dialogue, one that was connected not through geography but through a shared interest in experimental method and witness reliability.

Although not limited to a particular geographical context, experimental psychologists were concentrated in two key countries;

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<sup>53</sup> Brian H. Bornstein and Steven D. Penrod, "Hugo Who? G. F. Arnold's Alternative Approach to Psychology and Law," *Applied Cognitive Psychology* 22 (2008): 761.

<sup>54</sup> *Hugo Münsterberg Collection, 1890–1912*, Boston Public Library Archival and Manuscript Finding Aid Database, accessed September 19, 2016, <http://archon.bpl.org/?p=collections/controlcard&id=52>.

<sup>55</sup> Wolffram, "'God Save Us From Psychologists as Expert Witnesses,'" 337–52; Mülberger, "Teaching Psychology to Jurists," 60–86.

Germany and the United States.<sup>56</sup> For the purpose of this thesis ‘Germany’ refers to “the community of German-speaking psychologists regardless of their place of work or their nationality,” the definition the German Psychological Association used after its foundation in 1904.<sup>57</sup> It therefore includes modern day Germany, Austria and parts of Switzerland. While the first psychological experiments were undertaken in Germany, German experimental psychologists encountered many difficulties in establishing their discipline independently from philosophy, as universities were hostile to change and unwilling to delegate funds and invest in laboratories.<sup>58</sup> Due to these challenges, key developments moved to the United States, where psychologists encountered a more adaptable university system and received significantly more support and resources. The quantity of psychological publications published in each nation between 1880 and 1920 illustrates that America replaced Germany as the central location of the discipline, with historian Eliot Hearst noting a downturn in German publications by 1911, while American work had been increasing numerically since 1895.<sup>59</sup>

Significant scholarship was also published outside of these two nations. Firstly, France witnessed a surge of interest in suggestibility research in the 1900s following Binet’s publication of *La Suggestibilité* (Suggestibility).<sup>60</sup> His study highlighted an under researched area of inquiry

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<sup>56</sup> The intellectual connection between the United States and Germany goes beyond the psychological discipline, as historian Richard A. Littman noted that in 1880 there was the same number of American graduate students in German universities as there were in universities in the United States; Littman, “Social and Intellectual Origins of Experimental Psychology,” 44, 49; Hearst, “One Hundred Years,” 45; Mandler, *A History of Modern Experimental Psychology*, 51–70.

<sup>57</sup> Sprung and Sprung, “History of Modern Psychology in Germany,” 364.

<sup>58</sup> Fraisse, “The Evolution of Experimental Psychology,” 43.

<sup>59</sup> Hearst, “One Hundred Years: Themes and Perspectives,” 45.

<sup>60</sup> Mandler, *A History of Modern Experimental Psychology*, 65.

of the witness, namely that memory could be distorted through the method of recollection. Binet's research focussed on the suggestibility of young children, and his methods were referenced and replicated in numerous German and American studies in subsequent decades. Switzerland and Belgium also witnessed the publication of prominent research on witness reliability. Interest in witness psychology was notably absent in Britain, a country that is often excluded from historical accounts of the psychology of testimony.<sup>61</sup> Recent studies of the work of G. F. Arnold, an English Civil Servant who worked in India and Burma, has led to a rethinking of the idea that Britain was completely disengaged from the discourse on witness reliability and an understanding of the different priorities of British academics due to their nations' colonial activities.<sup>62</sup>

The international academic dialogue between psychologists regarding witness reliability was facilitated by universal reliance legal systems had on the issue. While the legal systems in the United States and in Central Europe were different, they both relied on the evaluation of witness testimony by judge or jury. The central difference between these systems that may have caused divergent understandings of the witness were the procedures around bringing witnesses to testify. For the adversarial system in the United States, opposing parties – the prosecution and the defence – were responsible for bringing forward evidence. In contrast, the inquisitorial

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<sup>61</sup> Historian D. S. Greer claimed that the first British contribution to the psychological dialogue on witness reliability was published in 1916 and the first example of a reality-experiment was as late as 1952; D. S. Greer, "Anything But the Truth? The Reliability of Testimony in Criminal Trials," *The British Journal of Criminology* 11 (1971): 135, 137.

<sup>62</sup> Britain is not mentioned in Sporer's 2008 article: Sporer, "Lessons," 737–757; the same year an article was published that emphasized Arnold's neglected work: Bornstein and Penrod. "Hugo Who?," 759–768.

system in Central Europe relied on an investigative judge to compile evidence, call upon witnesses and come to a verdict.<sup>63</sup> Regardless of the method by which a witness was bought to testify, both systems needed to analyse the accuracy of a witness statement, allowing psychological studies of the witness to be applied in either context.

A consequence of this multinational framework is that the sources are multilingual. Fortunately, a significant number of papers were originally published in English, due largely to the United States becoming the main centre for debate and discussion on witness testimony during the 1910s.<sup>64</sup> Alternatively, many texts were published in German and later translated into English, demonstrating that English-speaking academics wanted to engage with developments outside of their own linguistic and cultural community. Translations were typically German foundational texts of either psychology or criminology, as there was enough demand to have them distributed within the United States and Britain.

Key examples of this include Hans Gross' (1847–1815) criminological texts, both of which were translated into English in the first decades of the twentieth century. *Criminal Investigation (System der Kriminalistik)* was initially published in German in 1891, and published in 1906 for distribution to English officials stationed in colonial India. *Criminal Psychology (Kriminalpsychologie)* was likewise published in English fifteen years after its original German edition was released, but instead for the American

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<sup>63</sup> Michael K. Block et al., "An Experimental Comparison of Adversarial versus Inquisitorial Procedural Regimes," *American Law and Economics Review* 2 (2000): 171.

<sup>64</sup> Hearst, "One Hundred Years," 45.

audience.<sup>65</sup> Furthermore, some translations of German texts have recently been republished following the rise in historical interest into the discipline from 1990 onwards. Hermann Ebbinghaus' (1850–1909) *Memory: A Contribution to Experimental Psychology*, for example, was originally published in 1885, first translated into English in 1913 and was reprinted by *Annals of Neurosciences* in 2013.<sup>66</sup>

Despite the significant number of papers published in or translated into English, there are several relevant texts in foreign languages that were unavailable to the author. Binet's seminal 1900 *La Suggestibilité*, for example, remains untranslated from its original French.<sup>67</sup> In such cases, the author relies on references to such works in other primary sources and in historical discussions. Of particular value were American scholar Guy Montrose Whipple's (1886–1941) yearly summaries on developments in the psychology of testimony between 1909 and 1914.<sup>68</sup> These articles included discussion of German and French language studies, many of which modern English-language scholarship has not acknowledged. Significantly, his inclusion of Fritz Schramm and G. L. Vos's research on gender difference in high school students' memory was valuable as American scholars at the

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<sup>65</sup> Hans Gross, *Criminal Investigation: A Practical Handbook for Magistrates, Police Officers, and Lawyers*, trans. John Adam and J. Collyer Adam, (Madras: G. Ramasawmy Chetty & Co., 1906); Gross, *Criminal Psychology*.

<sup>66</sup> Henry L. Roediger, "Remembering Ebbinghaus," *Contemporary Psychology* 30 (1985): 523; Hermann Ebbinghaus, "Memory: A Contribution to Experimental Psychology," *Annals of Neurosciences* 20 (2013) [1885]: 155–56.

<sup>67</sup> Binet, *La Suggestibilité*.

<sup>68</sup> Whipple was an educational psychologist who spent his academic career as a professor at Cornell University. Guy Montrose Whipple, "The Observer as Reporter: A Survey of the 'Psychology of Testimony'," *The Psychological Bulletin* 6 (1909): 153–170; Guy Montrose Whipple, "General Reviews and Summaries: Recent Literature on the Psychology of Testimony," *Psychological Bulletin* 7 (1910): 365–369; Guy Montrose Whipple, "Psychology of Testimony and Report," *Psychological Bulletin* 7 (1913): 264–268; Guy Montrose Whipple, "Psychology of Testimony and Report," *Psychological Bulletin* 11 (1914): 245–250; Christian A. Ruckmick, "Guy Montrose Whipple: 1876–1941," *The American Journal of Psychology* 55 (1942): 132.

time, even those conducting similar research, did not engage with their studies, and analysis of their results does not appear in any contemporary English discussions of the field.<sup>69</sup>

As an intellectual history, this thesis does not engage with the impact of academic concepts and studies on the lives of people at the time. A direct connection between intellectual texts and police and court evaluations of testimony would be impossible because these are never made explicit in documents. For example, a criminal investigator may have read Gross's text where he writes that pregnant women are more desperate, and thus more likely to deceive the justice system.<sup>70</sup> While this statement may have informed the investigator's treatment of a pregnant witness's testimony, he may not have found it necessary to explain this link in an official document as such beliefs about pregnant women were widely held. Therefore, while some legal cases are referenced throughout this thesis, these are selected from a small group that appear in the academic texts published at the time. They are therefore the cases intellectuals believed were relevant because they supported their findings, or the cases that academics themselves were directly involved in.

## **Historical Analysis of Women and Psychology**

Feminist and women's history, where female perspectives were recovered and included in historical narratives, were significant historiographical trends during the 1970s and 80s.<sup>71</sup> In the history of

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<sup>69</sup> Whipple, "Psychology of Testimony and Report," (1913): 267.

<sup>70</sup> Hans Gross, *Criminal Psychology*, 317.

<sup>71</sup> Laurel Furumoto and Elizabeth Scarborough, "Placing Women in the History of Psychology: The First American Psychologists," *American Psychologist* 41 (1986): 35.



psychology, scholars such as Stephanie Shields and Victoria Schuck explored the previously ignored area of pre-Freudian psychology's understanding of women. This interest complemented a rise in interest in the unique challenges female psychologists faced within their discipline.<sup>72</sup>

Despite the concurrence of the increase in historical interest in women's perspectives and the beginning of historians' exploration of the psychology of witness testimony, there has as yet been no study that combines these two interests. Most research on turn of the twentieth century psychology that explores how a subject's identity impacted witness reliability has focussed on age, not gender.<sup>73</sup> It is the aim of this thesis, therefore, to contribute to both discourses and to write female perspectives into the narrative of witness reliability at the turn of the century.

## **Gendered Language**

Conceptions of womanhood that appear in psychological texts at the turn of the twentieth century are not as inclusive of diversity as those used today. During the 1990s a multicultural movement began in psychology, during which perspectives were explored that fell outside the traditional focus on white, middle-class researchers and subjects.<sup>74</sup> Within the

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<sup>72</sup> Shields, "Functionalism, Darwinism, and the Psychology of Women," 739–754; Studies which looked at female psychologists include; Schuck, "Sexism and Scholarship," 563–585; Margaret W. Rossiter, *Women Scientists in America: Struggles and Strategies to 1940* (Baltimore: The Johns Hopkins University Press, 1982); Furumoto and Scarborough, "Placing Women," 35–42.

<sup>73</sup> Examples of such studies include: Gail S. Goodman, "Children's Testimony in Historical Perspective," *Journal of Social Issues* 40 (1984): 9–31; Stephen J. Ceci and Maggie Bruck, "Suggestibility of the Child Witness: A Historical Review and Synthesis," *Psychological Bulletin* 113 (1993): 403–439.

<sup>74</sup> Alexandra Rutherford and Leeat Granek, "Emergence and Development of the Psychology of Women" in *Gender Research in Social and Applied Psychology*, eds. D.R. McCreary and J. C. Chrisler, Vol. 2 of *Handbook of Gender Research in Psychology* (New York, NY: Springer, 2010), 19.

psychology of women, this meant redefining the expectations of research to include experiences of women from “different ethnicities, social classes, sexual orientations, and cultures,” and avoiding overgeneralising those of privileged white women to speak for their whole gender.<sup>75</sup>

However, during the period under discussion (c. 1880 – 1920), the concept of intersectionality was completely foreign. To psychologists, a “woman” referred to anyone with female anatomy, and in practice this definition was further restricted, as researchers only included women from a very small demographic as subjects.<sup>76</sup> This select group mirrored the characteristics of male subjects – they were white, upper middle-class, and educated.<sup>77</sup> Therefore, when discussing gender differences, psychologists were by-and-large comparing data within the privileged class, neglecting the diversity of the wider population, including women of colour and women with disabilities. The exception to this rule was when studying gender differences in children, as they used primary school students from public schools, which were more diverse than the students in higher education and thus more representative of a more inclusive definition of being a female.<sup>78</sup>

Moreover, the definition of “women” at the turn of the century differs from the contemporary understanding that distinguishes between sex and gender. According to the American Psychological Association’s 2011

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<sup>75</sup> The separate sub discipline of psychology of women had existed from the beginning of the 1970s, however it was not until the 1990s that studies on gender began to branch away from a monolithic understanding of womanhood and explore the diversity of female experiences. Donald R. McCreary and Joan C. Chrisler, “Introduction,” in *Handbook of Gender Research in Psychology*, eds. D.R. McCreary and J. C. Chrisler, Vol. 2 of *Handbook of Gender Research in Psychology* (New York, NY: Springer, 2010), 2.

<sup>76</sup> McCreary and Chrisler, “Introduction,” 1.

<sup>77</sup> Furumoto and Scarborough, “Placing Women,” 38.

<sup>78</sup> G. Stanley Hall, “The Contents of Children’s Minds on Entering School,” *The Pedagogical Seminary* 1 (1891): 139–173.

definitions, sex refers to a person's biological status, usually male, female, or intersex.<sup>79</sup> Gender, on the other hand, refers to the "attitudes, feelings, and behaviours that a given culture associates with a person's biological sex."<sup>80</sup> In twentieth-century experimental psychology, these two concepts were merged. Rutherford and Granek credit the generalized concept of "sex," as one of the main difficulties female psychologists faced when challenging male superiority.<sup>81</sup> The term entailed that one's anatomy determined one's gender identity, emphasizing biological differences over social and thereby reinforcing the nature over nurture debate that female psychologists were trying to discredit. Without this distinction, the very use of the term "sex" subtly reinforced the male-superiority narrative.<sup>82</sup> In this thesis, the term "gender" is used to refer to what psychologists during the 1880s to 1920s referred to as "sex." This is done to emphasize the impact of social ideas of masculinity and femininity on how male and female testimony was differentiated.

## **Structure**

This thesis consists of five chapters. The first four demonstrate that criminologists, jurists, and psychologists collectively reinforced the societal understanding of women with their research. The final chapter demonstrates that the sexism prevalent in intellectual understandings of female witnesses was only challenged when female scholars came to study similar areas themselves.

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<sup>79</sup> American Psychological Association, "Guidelines for Psychological Practice with Lesbian, Gay, and Bisexual Clients," *American Psychologist* 67 (2012): 11.

<sup>80</sup> American Psychological Association, "Guidelines for Psychological Practice," 11.

<sup>81</sup> Rutherford and Granek, "Emergence and Development of the Psychology of Women," 35.

<sup>82</sup> Ibid.

Juridical and criminological texts are the subject of the first chapter, which looks at how the legal system valued male and female testimony at the turn of the century. It argues that legal attitudes towards female witnesses replicated social attitudes. Using Hans Gross' encyclopaedic textbooks, it explores how social Darwinism provided a new language through which ingrained beliefs and superstitions about women could be validated in a scientific age.

The second chapter argues that the first experiments on witness reliability ignored women. It looks into how the rise of spiritualism, a belief system that had a unique gender outlook by allowing women to serve in leadership positions, fostered the development of witness psychology. Psychologists in pursuit of disproving spiritualist beliefs in an afterlife overlooked questions of gender equality that arose with spiritualism. Instead, researchers focussed on the overall fallibility of human perception and memory, using their students – white men – to represent the experience of all healthy, able-minded people.

The third chapter examines the impact of more diverse test subjects on experimental psychologists' understanding of witness reliability. Driven by an increasingly diverse and egalitarian society, psychologists began to explore gender difference experimenting on school students and the increasing number of women that were attending psychology classes. For the first time, psychologists had subjects available in an equal gender ratio, and they were able to compare male and female data. This chapter argues that experiments between 1880 and 1920 on memory, perception and honesty that consider gender difference did so by drawing upon three

approaches. These were; only using male subjects; drawing on biological conceptions of male superiority; or interpreting data according to conceptions of gendered intelligence. While these different methods demonstrate that there was no uniform understanding of gender differences, they do however collectively portray men as more reliable than women. It was not until the research of a woman, Swiss schoolteacher Marie Borst, that this master narrative was challenged and women began to be represented more positively in experiments.

The disagreement between psychologists and jurists over the right of psychologists to give expert testimony on witness reliability in court is the subject of the fourth chapter. It focuses on two main scholars – psychologist Münsterberg and jurist Wigmore, and examines how their public dialogue characterized interactions between their disciplines in the U.S., while a more harmonious interdisciplinary relationship existed in Europe. While previous historical scholarship has focussed on their disagreement over disciplinary jurisdiction, this chapter highlights how their shared attitudes towards female witnesses suggests that believing women were inherently worse eyewitnesses than men was common across the two disciplines.

In the final chapter, female academic contributions to psychology are explored. It looks at the work of female scholarship relating to areas of witness reliability, such as memory and mental capacity, although forensic psychologists often overlooked the relevance of their studies at the time. Instead, their work was considered part of other sub-disciplines such as child and education psychology. It looks at the research of Marie Whiton Calkins (1863–1930), Amy Tanner (1870–1956), Leta Stetter Hollingworth

(1886–1939) and Helen Thompson Woolley (1874–1947), and argues that they challenged existing scientific misconceptions of women by arguing that gender differences were the product of the environment and not biological. In doing so, female scholars reinforced their own abilities as academics in a male-centric discipline, and also supported the idea that female witnesses should not be judged by their gender, but instead on the merit of their account.

## Chapter 1: Jurists' Attitudes towards Female Testimony

By the time experimental psychologists began to investigate witness reliability, the practice of ignoring female perspectives within criminal justice systems was well established in Central Europe and the United States. Feminist scholar Kathy Mack wrote in this regard, “many of men’s stories about women – the myths and the stereotypes – have become part of the law’s story about women.”<sup>1</sup> Although she was referring to a contemporary context, the process of incorporating gendered prejudice into law is evident throughout legal history and can certainly be seen in late nineteenth-century legal works regarding witness reliability. Legal beliefs about female reliability – women’s honesty and mental capacity for accurate recollection, were derived from common understandings about female behaviour. These conceptions were both reflected in and influenced by societal institutions, such as religion and politics, which uniformly subordinated women to men.<sup>2</sup> At the turn of the century these attitudes were expressed through the rhetoric of social Darwinism, which validated societal prejudices towards women in the new scientific age.<sup>3</sup>

This chapter uses the work of Austrian criminologist Hans Gross as representative of criminal procedure regarding female testimony in the late nineteenth century.<sup>4</sup> Gross’ two principal publications; *Criminal Investigation* (1893) and *Criminal Psychology* (1898) served as

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<sup>1</sup> Kathy Mack, “Continuing Barriers to Women’s Credibility: A Feminist Perspective of the Proof Process,” *Criminal Law Forum* 4 (1993): 329.

<sup>2</sup> Shields, “Functionalism, Darwinism, and the Psychology of Women,” 740.

<sup>3</sup> Schuck, “Sexism and Scholarship,” 570.

<sup>4</sup> Sporer, “A Brief History,” 326.

encyclopaedias of criminology and consisted of information derived from decades of his personal experiences as a jurist, teacher and academic. He viewed his own training at the University of Graz as insufficient preparation for the practical role of an Examining Justice, and devised his works to be as practical as possible to compensate for the inadequate training universities offered.<sup>5</sup> Other historians have used Gross' work as representative of general criminological knowledge, Siegfried Ludwig Sporer, for example, has repeatedly noted that Gross's work included most of the psychological knowledge being published and used in court at that time.<sup>6</sup>

The multiple translations and editions of Gross's books further speak to their uniqueness, universal relevance, and utility. Translations, especially, show that criminological knowledge could be applied within different social, cultural, linguistic, and legal contexts. For example, the first English translation of *Criminal Psychology* was undertaken for use in India, which, as a British colony, operated with the adversarial system rather than the inquisitorial system used in Austria.<sup>7</sup> Thus, *Criminal Investigation* and *Criminal Psychology* were an accumulation of disciplinary knowledge and representative of Western investigative practices of the time.<sup>8</sup>

In 1898 Gross wrote, "One of the most difficult tasks of the criminalist who is engaged in psychological investigation is the judgment of woman."<sup>9</sup>

Like other jurists, psychologists, and criminologists of his time, Gross

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<sup>5</sup> Roland Grassberger, "Pioneers in Criminology. XII. Hans Gross (1847–1915)," *The Journal of Criminal Law, Criminology, and Police Science* 47 (1956): 398; Daniel M. Vyleta, *Crime, Jews, and News: Vienna 1890–1914* (New York: Berghahn Books, 2007), 15.

<sup>6</sup> Sporer, "A Brief History," 325; Sporer, "Lessons," 739; See also Annette Mülberger, "Teaching Psychology to Jurists," 64.

<sup>7</sup> The translation was done by John Adam and J. Collyer Adam, and was published by A. Krishnamachari in Madras, 1906.

<sup>8</sup> Sporer, "A Brief History," 325.

<sup>9</sup> Hans Gross, *Criminal Psychology*, 300.



asserted the universal unreliability of human testimony, and emphasized that women were particularly inaccurate witnesses.<sup>10</sup> His work is unique in its focus on the female witness, as he was the earliest, and one of the only, scholars to dedicate significant analysis to gender difference. This chapter consists of three parts. Firstly, it examines how common misconceptions about women, and particularly their sexuality, informed Gross' understanding of female criminality. Secondly, three female characteristics Gross evaluated in his work to shed light on the reliability of the female witness are discussed – reproductive biology, the inclination to lie, and age. Finally, the work of one of Gross' intellectual predecessors, Cesare Lombroso, is examined. By demonstrating how Lombroso used similar explanations of gender difference in his own work, the argument is made that the distinction between subjective experience and objective science was blurred in late nineteenth-century criminological discussions of female witnesses.

## **Biology and Common Understandings as Evidence of Gender Difference**

*Criminal Investigation* and *Criminal Psychology*, while similar in their discussion of criminological developments, had different areas of focus. *Criminal Investigation* offered a general guide to the investigative process, of which the examination of witnesses was only one part among many. The main argument Gross put forward in relation to witnesses was that human testimony was in and of itself inherently unreliable, as testimony was

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<sup>10</sup> Ian Burney and Neil Pemberton, "Making Space for Criminalistics: Hans Gross and fin-de-siècle CSI," *Studies in History and Philosophy of Biological and Biomedical Sciences* 44 (2013): 18.

always the production of an individual, rather than the reproduction of reality. Gross thus emphasized the importance of favouring physical evidence over witness accounts, as it was less subject to manipulation.<sup>11</sup> His discussion of witnesses acknowledged differences between social groups, such as those between women and men. However, although gender was included as a point of difference, it was marginalized as a contextual consideration in favour of more general discussions of the crime scene.<sup>12</sup>

The main focus of Gross's second manual, *Criminal Psychology*, was to understand human behaviour – both the witness and the criminal. This book contains most of Gross's discussion of gender difference in eyewitness testimony, and a clear prejudice against women, not only as witnesses but also as potential criminals, is evident. Another source of Gross's scholarship was the journal he established in 1898, *Archiv für Criminalanthropologie und Criminalistik* (*Archive for Criminal Anthropology and Criminalistics*).<sup>13</sup> It was one of the more important German language periodicals on criminology and criminalistics, however it had much less influence on Western scholarship than his books because it was restricted to scholars who could read German and those with physical access to it.<sup>14</sup> *Archiv* does, however, include valuable information about Gross' experimental methodology relevant to this chapter.<sup>15</sup>

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<sup>11</sup> Gross, *Criminal Investigation*, xxvi.

<sup>12</sup> Vyleta, *Crime, Jews, and News*, 17.

<sup>13</sup> Ibid.

<sup>14</sup> *Archiv* was a specialist journal that published many articles written by Gross himself, as well as several other notable German scholars such as Max Wertheimer, Albert Hellwig and Otto Lipmann.

<sup>15</sup> Gross, "Buchbesprechung: Stern, Beiträge zur Psychologie der Aussage," *Archiv* 16 (1904): 371–377; Sporer "A Brief History," 326.

Criminological methods of assessing the reliability of testimony were formed around the practical boundaries of legal investigation. This meant that Gross' audience were jurists, and as the legal profession was almost exclusively male at this time, Gross' work was thus directed towards an all-male audience. German women pursuing legal careers faced severe deterrents that prevented women from engaging in law. For example, female law students only became admitted to law schools beginning in 1900.<sup>16</sup> Furthermore, the first woman to pass the state examination required to practice law did not do so until 1912, nearly fifty years after the first American woman passed the bar.<sup>17</sup> Even though women were able to take state examinations, they were separated from male lawyers professionally and were unable to use the same job name.<sup>18</sup> It was not until ten years later, in 1922, that a nation-wide law was introduced enabling women to be formally admitted into legal professions.<sup>19</sup> Gross' own experience of female lawyers therefore would have been non-existent at the time he published both his manuals, in 1891 and 1898, and the premise that lawyers and jurists were all male would have been presumed.

The legal system's all male perspective is expressed in Gross' use of male pronouns. He always refers to the reader and to any generalized group in the masculine form. This practice was a well-established intellectual convention, one that would continue to dominate academic writing

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<sup>16</sup> Ulrike Schultz, "The Status of Women Lawyers in Germany," in *Women in the World's Legal Professions*, eds. Ulrike Schultz and Gisela Shaw (Portland, Oregon: Hart, 2003), 272.

<sup>17</sup> In America, Arabella Mansfield was the first woman to be admitted to the bar in 1869, although institutional frameworks continued to deter others from achieving the same feat for many decades afterwards. D. Kelly Weisberg, "Barred from the Bar: Women and Legal Education in the United States, 1870–1890," *Journal of Legal Education* 28 (1977): 485.

<sup>18</sup> Schultz, "The Status of Women Lawyers in Germany," 272, 273.

<sup>19</sup> Ibid.

practices in both the English and German languages well into the twentieth century.<sup>20</sup> As it appears in Gross' texts, the dominant use of the male pronouns situated women in the position of the unknown "other." Instead of discussing gender differences – how male and female accounts had different strengths and weaknesses – male accounts were consistently presented as normal and women's as abnormal. For this reason, in Gross's *Criminal Psychology*, we find sixty-six pages dedicated to understanding female testimony, and no exclusive section for male testimony.<sup>21</sup>

The foundation of Gross' central argument used to validate female unreliability is the legal discipline's male exclusivity. He believed that men and women were too different to ever understand each other, which translated into a legal context meant that the male investigator was never able to accurately interpret a female witness's statement.<sup>22</sup> Thus, not only were women like "savages," in that they were mentally inferior to the white adult male, but the subjective interpretation of the male investigator would continuously distort their testimony rendering their perspectives even more unreliable.<sup>23</sup>

Furthermore, Gross believed that differences in biology, such as those that existed between the male investigator and the female witness, were

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<sup>20</sup> It was not until the feminist movement of the 1970s that a debate was sparked in the United States over the correctness of using male pronouns. Emek Ergun, "Bridging Across Feminist Translation and Sociolinguistics," *Language and Linguistics Compass* 4 (2010): 310, 311.

<sup>21</sup> Sixty Six out of 492 pages were dedicated to female testimony (not including bibliography or index); Gross, *Criminal Psychology*, 300–366.

<sup>22</sup> Gross, *Criminal Psychology*, 301.

<sup>23</sup> Comparisons between women and animals became popular intellectual and public debate around this time following the renaissance in popularity of Mary Wollstonecraft's eighteenth century work on the philosophy of gender; Botting, Wilkerson, and Kizlow, "Wollstonecraft as an International Feminist Meme," 19–21; Gross, *Criminal Psychology*, 362.

more divisive than differences in circumstance, such as class and age. Because men are “made of the same elements,” he claimed that the jurist and the male witness would always share a similar frame of reference, regardless of differences in “age, conditions of life, education, and morality.”<sup>24</sup> For example, when confronted with an elderly man’s testimony, investigators would see in him their own future, and their shared experience as men would form the basis of a mutual understanding and accurate legal interpretation.<sup>25</sup> This understanding, according to Gross, would surpass any that existed between the elderly man and a woman of his own age. Female testimony was automatically treated with scepticism due purely to their gender, notwithstanding any circumstantial factors that would attest to the reliability of their account. Gross therefore posited sexual anatomy as the foundation of understanding.<sup>26</sup> His texts aimed to educate investigators in women’s perspectives, thereby reducing the amount of error in interpretation. To do this, he discussed experiences exclusive to women, such as menstruation and motherhood. Although he stressed that he did not believe male testimony was objectively better than that of females, the position of power men had within the investigative process ensured that female testimony was actively devalued.<sup>27</sup>

Alongside these more subjective forms of evidence, Gross did engage with psychological experiments being published on witness reliability, although not in relation to gender differences. Despite not having a

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<sup>24</sup> Gross, *Criminal Psychology*, 301.

<sup>25</sup> *Ibid.*

<sup>26</sup> *Ibid.*

<sup>27</sup> Heather Wolfram, “Witnessing the Birth of the Witness at the Fin de Siècle,” (paper presented at the History Department Seminar, University of Canterbury, Christchurch, September 18, 2013.)

background in scientific experimentation, he included psychological findings in his manuals, including Hermann Ebbinghaus's (1850–1909) study on memory.<sup>28</sup> Gross replicated several psychological experiments on witness reliability, which he discussed in a 1904 *Archiv* book review. He claimed to have encountered more than 45,000 witnesses during the course of his career, on whom he had conducted 'witness tests.'<sup>29</sup> During these tests, the subject was asked to estimate time, distance, age of a stranger, and to identify people, mirroring the questions psychologists asked during experiments at the same time.<sup>30</sup> Thus, while Gross used experimental psychology to substantiate his claims that witness testimony was generally unreliable, he did not use scientific methods to test his arguments about women's particular unsuitability as witnesses. This suggests that he treated his understanding of gender difference as foundational and therefore it was unnecessary to explore through experimental means.

### **Common Understandings of Women in Conceptions of Female Criminality**

The influence of common understandings of women on Gross' analysis of female criminality is evident in two forms; firstly, in his interpretation of previous criminal cases, and secondly, in his use of general assumptions of female characteristics. Gross drew on his personal experiences and observations as an investigative judge as evidence of objective and universal truths about gender differences. These perspectives were validated as

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<sup>28</sup> Sporer, "A Brief History," 326.

<sup>29</sup> Gross, "Buchbesprechung," 371–377; Sporer "A Brief History," 326.

<sup>30</sup> Gross also used experimental demonstrations in his classes to show the fallibility of memory and perception. Sporer, "A Brief History," 326.

evidence of gender difference on the basis of Gross's decades' long career and expertise in the area. He drew upon specific examples of investigators encountering female criminality, and his framing of female motivation in these cases demonstrates how common misconceptions about women, particularly their sexuality, distorted analysis of their behaviour.

For example, Gross writes that if an investigator was trying to discover the accomplices of a criminal, all he needed to do was find "a woman who really loves him," as she would surely have participated.<sup>31</sup> Additionally, he refers to a case he worked on where a young woman was accused of poisoning her elderly husband. Gross used the wife's extensive knowledge of religion and saints as evidence of her "glowing sensuality," which was cited as motivation for killing her "impotent" and "unsatisfactory" husband.<sup>32</sup> These two instances show that in cases that lacked physical or eyewitness evidence to implicate or convict women, Gross treated stereotypes about female sexuality as evidence of deviant behaviour.

Gross also uses common social conceptions of female behaviour as evidence in his understanding of female criminality. He treats folk stories, poetry and philosophical musings about women as reliable representations of reality to be employed in criminal investigations. For example, he draws on the biblical story of Adam and Eve to explain his belief in female conceit.<sup>33</sup> He refers to a common reproduction of the story where "somebody" described Eve's first thought after eating the apple as "[h]ow does my fig-leaf fit?" Gross saw this addition as "tasteful" and representative

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<sup>31</sup> Gross, *Criminal Psychology*, 352.

<sup>32</sup> *Ibid.*, 324.

<sup>33</sup> *Ibid.*, 328.

of all women, whose behaviour was first dominated by pride and vanity.<sup>34</sup> He connects this characterisation to his approach towards female involvement in crime, as he later claims that female vanity led women to implicate themselves in a crime more often than men through the flaunting of stolen merchandise.<sup>35</sup>

Gross validated his use of societal understandings as evidence on the basis that Western conceptions of gender difference were representative of a natural order. Using examples of patriarchal societies found “very early in the history of most civilized peoples,” such as ancient Greece, Rome, and China, Gross argued that the continuation of female inferiority within his own culture proved that patriarchy was a reflection of human nature and not a cultural construct.<sup>36</sup> Each subsequent generation, he believed, had tested male superiority, and because this process did not alter society’s structure and men continued to be valued more than women in modern society, it was therefore correct and natural. A woman, he believed, was “simply a less worthy creature.”<sup>37</sup>

### **Female Characteristics and their Impact on Witness Reliability**

In his extensive discussion of gender differences in eyewitness testimony, Gross outlines several characteristics exclusive to women that he believed influenced the reliability of their memory, perception, and recollection. These include their reproductive biology, their ability to lie, and their age. Gross’ evaluation of these traits demonstrate how women’s

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<sup>34</sup> Gross, *Criminal Psychology*, 328.

<sup>35</sup> *Ibid.*, 329.

<sup>36</sup> Gross, *Criminal Psychology*, 301–303.

<sup>37</sup> *Ibid.*, 302.



perspectives within the justice system were highly differentiated from, and subordinated to, men's.

According to Gross, female reproductive biology shed considerable light on female witness reliability. He was particularly focussed on the effects of menstruation and pregnancy on female mentality. Gross's first point of discussion in this area was to offer the criminal investigator practical advice to help them judge whether or not a woman had her period when the crime occurred, and thus whether or not she was experiencing mental deficiencies. He writes that most women menstruate "during the first quarter of the moon," which would cause a "not insignificant alteration of their mental lives."<sup>38</sup> He continues by characterizing the supposed traits of menstruating women, such as an inclination to anger and an increased tendency to lie.<sup>39</sup>

Gross' discussion of pregnancy is slightly more vague, although equally damning to female reliability. "Extraordinary, often cruel impulses," influenced pregnant women's behaviour, he wrote.<sup>40</sup> Additionally, he believed that the psychology of impending childbirth intensified emotion and made women feel nearer to death, which in turn distorted and exaggerated reality.<sup>41</sup> While Gross believed these experiences were universal across the female gender, he does, however, acknowledge the diversity of female experiences, particularly the difference between a

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<sup>38</sup> Gross, *Criminal Psychology*, 312.

<sup>39</sup> Gross also links menstruation to female criminality, citing the work of Du Salle, a French scholar, whose "far-reaching investigations" found that women with their periods committed a significant number of the thefts from Parisian stores. Gross, *Criminal Psychology*, 313, 316.

<sup>40</sup> *Ibid.*, 317.

<sup>41</sup> *Ibid.*

wanted and an unwanted pregnancy. He implores the investigator to use his own judgement of her situation and the possible effects of this on the reliability her account, noting that women with unwanted pregnancies were more prone to desperation and manipulation.<sup>42</sup>

Honesty is another characteristic Gross discussed that sheds light on how jurists devalued female testimony at the turn of the century.

Dishonesty, Gross claimed, was “a specifically feminine characteristic, and in men occurs only when they are effeminate.”<sup>43</sup> He observed that social customs required women to be secretive, such as hiding menstruation or pregnancy in social situations and having to keep cordial around unlikeable people.<sup>44</sup> Gross believed that practice with hiding their true feelings in this way ensured that women were well-rehearsed in deception to such an extent that it became naturally to them.<sup>45</sup>

Gross draws upon the work of other notable scholars, Lombroso and Stendhal, to support his belief that societal pressures conditioned women to be incapable of telling the truth. Lombroso described the source of women’s motivations for lying as “the feeling of shame, because of the sexual selection which compels them to conceal age, defects, disabilities.”<sup>46</sup> He thus cited the pressure on women to fit into a certain image of womanhood as cause for deception. Likewise, Stendhal argued that truth

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<sup>42</sup> Gross, *Criminal Psychology*, 318.

<sup>43</sup> *Ibid.*, 341.

<sup>44</sup> *Ibid.*, 311.

<sup>45</sup> *Ibid.*

<sup>46</sup> *Ibid.*, 341.

telling was something women were trained out of through societal expectation, comparing being honest with appearing naked in public.<sup>47</sup>

Gross made these evaluations directly relevant to the courtroom context by discussing Gustave Flaubert's scholarship and his own experiences. Flaubert described the context in which testimony is given within the legal system to support this idea that female dishonesty was an environmental product. He writes that the court handles "every ticklish subject" in a roundabout way, forcing women to avoid certain hard truths (and thus be deceitful) to mirror their approach.<sup>48</sup> Gross also asserted that female dishonesty was inevitable even when under oath. He writes;

Quite apart from the various ills and diseases which women assume before the judge, everything else is pretended; innocence, love of children, spouses and parents; pain at loss and despair and reproaches; a breaking heart and separation; and piety, - in short, whatever may be useful.<sup>49</sup>

Gross even offers a formula to help the investigative judge to decipher whether or not a female witness's tears are genuine. Silent tears, especially those that a woman is trying to repress, are sincere, whereas loud, eternal weeping is an act.<sup>50</sup>

Finally, Gross discussed the impact of age on female testimony. He addressed both age extremes – young girls and elderly women (specifically those who were unmarried), two groups whose testimony he considered wildly inaccurate. It is interesting to note that men did not influence the lives of women in both these groups as much as they did their married

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<sup>47</sup> Gross, *Criminal Psychology*, 341.

<sup>48</sup> Ibid., 342.

<sup>49</sup> Ibid., 343.

<sup>50</sup> Ibid., 344.

counterparts. Mothers cared for young girls, and female teachers mostly taught them at school, likewise unmarried women retained more freedom from male influence after reaching adulthood.<sup>51</sup> Marriage, Gross believed, was synonymous with protection, success, and happiness, and the court should treat any woman who had not experienced it with extreme scepticism.<sup>52</sup> Gross did not address married women as a category of difference in their own right – instead they served as the “norm” against which their younger or unmarried equivalents were measured.

Young girls’ testimony is consistently labelled as “dangerous” in both *Criminal Investigation* and *Criminal Psychology*, while boys of the same age were the “best observer and witness there is.”<sup>53</sup> The difference in the perceived reliability of the two groups, despite being the same age, lies in two parts: firstly, their gendered intellects, and secondly their truthfulness.

Gross claimed that young girls and boys’ intellect reflected their adult counterparts – young girls, he writes, are curious and observant, but stay close to their mothers’ sides where they are sheltered from the world.<sup>54</sup> Their “natural gifts” included imagination and romantic exaltation, which caused a tendency to seek attention and exaggerate.<sup>55</sup> Although these characteristics made young girls’ testimony unreliable, Gross claims that their impact is easily identifiable to the investigator and thus can be disregarded.<sup>56</sup> Young boys, comparatively, were naturally critical thinkers,

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<sup>51</sup> Gross, *Criminal Psychology*, 366; G. Stanley Hall, “Normal Schools, Especially in Massachusetts,” *The Pedagogical Seminary* 9 (1902): 180.

<sup>52</sup> Gross, *Criminal Psychology*, 329.

<sup>53</sup> *Ibid.*, 366.

<sup>54</sup> Gross, *Criminal Investigation*, 93.

<sup>55</sup> *Ibid.*, 94.

<sup>56</sup> Gross, *Criminal Psychology*, 314, 368.

which ensured that their accounts would have a more balanced perspective on a witnessed event.<sup>57</sup>

The second difference between the testimony of young girls and boys according to Gross was their consistency in telling the truth. Boys, he wrote, found lying distasteful because they thought it “mean.”<sup>58</sup> Girls, however, were naturally inclined to lie because they exaggerated for their own amusement. This tendency to exaggerate overrode their strengths; namely being inquisitive and observant, two areas where they excelled beyond the abilities of boys their own age.<sup>59</sup> In fact, Gross claims that if a schoolgirl were guaranteed to speak truthfully, she would be the most useful witness on neighbourhood gossip, due to her inclination to spy.<sup>60</sup> Thus, the difference in reliability between young girls and boys lies not in their abilities to perceive or their capacity to recollect accurately, but in their different willingness to tell the truth. While girls may possess more information useful to the investigator, the information boys provide is of more value because boys are “better grounded” and more accurate.<sup>61</sup>

Like their younger counterparts, the testimony of older unmarried women was devalued because of the stereotype that they were untruthful. Their need to distort reality, according to Gross, derived from their “failure” to fulfil their biological purpose. Women’s strengths, he maintained, lay in areas that they were designed for – namely mothering.<sup>62</sup> Gross considered all unmarried women as being synonymous with having no children, and

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<sup>57</sup> Gross, *Criminal Psychology*, 365.

<sup>58</sup> Gross, *Criminal Investigation*, 93.

<sup>59</sup> *Ibid.*, 95.

<sup>60</sup> *Ibid.*

<sup>61</sup> Gross, *Criminal Psychology*, 365.

<sup>62</sup> *Ibid.*, 304.

thereby considered them unnatural.<sup>63</sup> He believed that women who had not experienced motherhood were: bored, bitter, envious, unpleasant, lonely, interfered in affairs that were none of their business, and exaggerated for their own entertainment.<sup>64</sup> All of these traits, he believed, made for a dangerous witness. He sums up the experience of unmarried older witnesses in court;

Old maids as witnesses always bring something new. If you have heard ten mutually-corroborating statements and the eleventh is made by an old maid, it will be different. The latter, according to her nature, has observed differently, introduces a collection of doubts and suggestions, introduces nasty implications into harmless things, and if possible, connects her own self with the matter.<sup>65</sup>

Like in other areas of Gross' work, he acknowledges possible exceptions to his generalizations, thus leaving space for the investigator's own judgement. In this case, if the witness did not manifest the characteristics of the "very pitiful creature" described above, she would possess those of the extreme opposite personality.<sup>66</sup> She would be kind and loveable, but these traits would not redeem her value as a witness, as Gross believed even a kind-hearted old maid was unreliable because she is unobservant and too mild in her judgments.<sup>67</sup>

In sum, Hans Gross's work illustrates how stereotypes and social attitudes influenced jurists' attitudes towards women as witnesses at the end of the nineteenth century. These attitudes are prevalent in Gross'

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<sup>63</sup> Gross, *Criminal Psychology*, 329.

<sup>64</sup> Ibid.

<sup>65</sup> Ibid.

<sup>66</sup> Ibid.

<sup>67</sup> Ibid.

evaluation of female criminality, and are used as evidence of female behaviour in their own right. When discussing female witness testimony, three generalizations about women were used to discredit the reliability of their accounts. These were their biology, their tendency to lie, and their age.

### **Evidentiary Similarities between Lombroso and Gross in their Evaluations of Gender**

Gross' use of common stereotypes and biological conceptions about women to justify their inferiority also featured in the earlier criminological works of Lombroso. These two scholars share this methodological similarity despite holding conflicting opinions about the origins of crime. Gross viewed the public, represented by the witness, as the defective group. Characterised as "weak-willed, easily confused and unreliable," he viewed witnesses as "proto-defective citizens" subject to manipulation by criminals, who in turn were comparatively normal.<sup>68</sup> On the other hand, Lombroso considered criminals the defective group, and focussed on the motivations and causes of criminal behaviour. His criminological approach was outlined in his 1876 book *L'uomo Delinquente (Criminal Man)*, where he claimed that up to 70 per cent of criminals were biologically predetermined to commit crime, and were identifiable by anatomical features that resembled earlier states in human evolution.<sup>69</sup> Lombroso's theory of the "born criminal" had considerable influence on public policy and intellectual thinking following

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<sup>68</sup> Vyleta, *Crime, Jews, and News*, 21.

<sup>69</sup> Lombroso revised *Criminal Man* multiple times, eventually lowering this statistic to 31%, of male criminals and 18% of female criminals; Davie, "Criminal Man Revisited," 3; Cesare Lombroso and Guglielmo Ferrero, *Criminal Woman, the Prostitute and the Normal Woman*, trans. Nicole Hahn Rafter and Mary Gibson (Durham and London: Duke University Press, 2004), 8.

its publication, and it is frequently credited with “kick-starting” modern criminology because it moved away from moral explanations for crime towards a systematic study of individual criminals.<sup>70</sup>

Although Lombroso’s work received significant criticism in his home, Italy, and abroad, his ideas were influential on how criminality was understood in Western Europe, as evidenced by the numerous publications discussing his theory in the decades after its publication. Lombroso’s portrayal of women as lesser beings than men reflected and justified the prominent scientific and social attitudes of the time. Because Lombroso was focussed on the causes of crime, women’s perspectives and their abilities as witnesses are not discussed directly in his work. Instead, they can be discerned through his discussion of the female psyche within the context of female criminality, and his positioning of women within a social Darwinist understanding of gender. Despite Gross’ and Lombroso’s vastly different approaches, they were both hugely influential on contemporary theories of crime, and this section argues that they also shared a belief in the inherent untrustworthiness of women.

Lombroso’s medical background facilitated his understanding of criminality as biological. His evidence was largely derived from the physical traits of criminals themselves. “Ape-like” characteristics such as a thicker skull, a narrow forehead, a prominent jaw (‘prognathism’), and long arms were used as proof that violent or repeat offenders were a distinct anthropological type, one that had close ties to earlier stages of human

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<sup>70</sup> Richard Wetzell, “Psychiatry and Criminal Justice in Modern Germany, 1880–1933,” *Journal of European Studies* 39 (2009): 28; Vyleta, *Crime, Jews, and News*, 7.



evolution.<sup>71</sup> As Davie noted in 2003, Lombroso's inclusion of Darwinian evolutionary theories legitimized the supposed superiority of the adult white male above all other people. 'Inferior' social groups ordered by class, race, and gender, all represented a lesser stage of human development. Thus, women, like born criminals and children, were subordinated to men.<sup>72</sup>

Lombroso's belief in the maintenance of traditional gender roles is apparent in his opinion of female punishment. He advocates for special treatment based on their important roles as mothers and homemakers, suggesting special tribunals and legislation that would minimize their time away from their families.<sup>73</sup> He claims that female criminals are often lacking in "the sublime and sacred maternal sentiment," suggesting that women who were not maternal were deviant and associated with crime.<sup>74</sup> Thus, while Lombroso acknowledges that some women, like men, are born criminals, he believed their role as mothers was fundamental to society and their imprisonment should be avoided at all costs.

Gross frequently draws upon Lombroso's biological theories of gender and anecdotal evidence. A notable example of this in Gross' work is his reference to Lombroso's statements regarding female cruelty to justify their subordination to men.<sup>75</sup> Lombroso claimed that women were fundamentally inclined to be cruel, and as cruelty was a method of defence, it implied women were the weaker sex.<sup>76</sup> One of Lombroso's anecdotes, which Gross

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<sup>71</sup> Davie, "Criminal Man Revisited," 4; Wetzell, "Psychiatry and Criminal Justice in Modern Germany," 29.

<sup>72</sup> Davie, "Criminal Man Revisited," 4.

<sup>73</sup> Lombroso, *Criminal Man*, 181.

<sup>74</sup> *Ibid.*, 182.

<sup>75</sup> Gross, *Criminal Psychology*, 341.

<sup>76</sup> *Ibid.*, 355.

later repeated, involved “an educated, much experienced woman” claiming that all women find it difficult not to cheat when playing cards, croquet, and lawn tennis.<sup>77</sup> This story was used to validate the common perception that women are innately deceitful, as it came from someone with first-hand experience of being a woman, and therefore must have been true.

However, using anecdotes as indicative of wider psychological trends is scientifically unsound. The inclusion of this kind of evidence amongst scientifically tested information in both Lombroso and Gross’s work suggests that both scholars did not believe it was necessary to distinguish between the validity of experimental findings and that of second-hand stories or thoughts. Regarding female criminals, neither form of evidence contradicted the other, and it therefore appeared unnecessary to put more value in one than the other when both methods appeared to demonstrate the same fact – that women were inferior. By including and referring to anecdotes in their work, the two scholars collectively authenticated detrimental ideas regarding female biology and deception within the increasingly scientific and objective studies of criminality emerging at the end of the nineteenth century.

To conclude, this section has shown how two of the most prominent criminologists of the late nineteenth century, Hans Gross and Cesare Lombroso, used common understandings of women and conceptions about their biology to support a hierarchical understanding of gender that subordinated women to men. By doing so, they legitimized jurists’ and psychologists of testimony’s distrust of female witness testimony. The

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<sup>77</sup> Gross, *Criminal Psychology*, 346.

similar understandings of women presented in both scholars' work despite decades between their publications and their different approaches to crime show that these attitudes were ingrained into criminal procedure and criminological thinking. In the following chapters, it is demonstrated how subsequent male psychologists and jurists continued the precedent set by Gross and Lombroso by reinforcing common understandings of gender hierarchy in intellectual texts.

## Chapter 2: The Origins of the Psychology of Testimony

In 1848, Kate and Margaret Fox from Hydesville, New York, created a nationwide sensation by claiming to have communicated with the dead. The sisters simulated rapping and knocking sounds to convince their family and neighbours that the spirit of a murdered peddler haunted their house.<sup>1</sup> Quaker abolitionists verified the sisters' talent as mediums, and they gained a small level of fame conducting séances at public lecture halls and in private parlours.<sup>2</sup> Although the Fox sisters later admitted their claims were a hoax, and that they had snapped their toes, knees, or ankles to make the rapping sounds, their admission did nothing to deter public enthusiasm for the idea that they could communicate with spirits.<sup>3</sup> The belief that the living could speak with the dead had spread beyond Hydesville, developing into the religious ideology known as spiritualism. Various mediums expanded on the Fox sisters' techniques, establishing more complex methods of communication such as automatic writing and direct voice communication.<sup>4</sup> This movement, started by two young women, continued to value female contributions as it grew, adopting a social reformist stance that applied equality to all genders, social classes and ages. Belief in the application of scientific methods, namely empirical proof of the soul's immortality, gained

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<sup>1</sup> Coon, "Testing the Limits of Sense and Science," 143; Wolfram, *Stepchildren of Science*, 51.

<sup>2</sup> Philip John Tyson, Dai Jones and Jonathon Elcock, *Psychology in Social Context: Issues and Debates* (West Sussex: John Wiley & Sons, 2011), 196.

<sup>3</sup> Tyson, Jones and Elcock, *Psychology in Social Context*, 197; Richard Wiseman, *Paranormality: Why We See What Isn't There* (London: Pan Macmillan, 2011), 118.

<sup>4</sup> Wolfram, *Stepchildren of Science*, 50.

increasing publicity and renown throughout the later nineteenth century, attracting several million followers worldwide.<sup>5</sup>

At the same time as spiritualism was gaining momentum, experimental psychology was emerging as a discipline in its own right.<sup>6</sup> In the late 1860s notable scholars across the Western World including James and Wundt were discussing and implementing the concept of psychology as a scientific discipline separate from philosophy.<sup>7</sup> Proponents of the “new psychology” faced several challenges in ensuring the academic survival of their discipline. These included garnering enough public interest in the content of their scholarship, attracting sufficient funding, and establishing adequate resources, particularly laboratories.<sup>8</sup> Essentially, experimental psychologists needed to prove that their discipline could offer new, relevant, and accurate research that was not already being produced by another discipline. In pursuit of securing their position as the sole experts on mental phenomena, psychologists began to research the accuracy of memory and perception from the 1880s onwards.

This chapter argues that early work on the psychology of testimony ignored women. It consists of two parts, the first of which outlines how the issue of witness reliability as an area of psychological study emerged in response to the rising influence of spiritualism. It explains how spiritualism’s pseudoscientific methodology, popularity, and the class make-up of its following threatened the survival of psychology as an independent

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<sup>5</sup> Including significant numbers in Britain and Central Europe by 1880. Wolffram, *Stepchildren of Science*, 50.

<sup>6</sup> Coon, “Testing the Limits of Sense and Science,” 145.

<sup>7</sup> Camfield, “The Professionalization of American Psychology,” 66.

<sup>8</sup> Coon, “Testing the Limits of Sense and Science,” 146.

scientific discipline. Next, it discusses the two conflicting positions psychologists formulated in response to the public's interest in spiritualism; to *include* or *exclude* psychic phenomena from its disciplinary boundaries. It was through the latter approach that psychologists discovered how their experimental research into memory and perception could be applied in a legal context, from which the psychology of testimony emerged.

The second half of this chapter argues that despite spiritualism being notably engaged with gender politics, early psychological experiments were disengaged from any gender comparison. Ignoring women was not necessarily a conscious decision, as practical restrictions meant that research subjects were primarily psychology students. The demographic of subjects was thus determined by the narrow demographic admitted into universities at the turn of the century, one dominated by white upper-class men. The test subjects used in experiments therefore reaffirmed society's gendered prejudices that implied white male perspectives were more valid than those of other social groups.

### **Spiritualism's Threat to Experimental Psychology**

Spiritualism threatened experimental psychology's future in three central respects; their methodological similarities, their popularity, and the class profile of their following. Firstly, both spiritualism and experimental psychology relied on the same kind of evidence – empirical demonstration.<sup>9</sup> Spiritualists claimed that modern science justified their belief in mediumship, the occult, and the immortality of the soul. Séances held under

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<sup>9</sup> Michael Petit, *The Science of Deception*, 87.

“test conditions” aimed to replicate scientific experimental standards, thus offer proof of an afterlife that Christianity could not provide and modern science had not discovered.<sup>10</sup> This shared evidentiary base therefore created a link between science and spiritualism, which held fundamentally opposing views on the physical world. Scientists based their studies on the assumption that only physical forces could impact on the physical world, while spiritualists believed that nonphysical forces (such as mental or spiritual) were also able to affect the physical world.<sup>11</sup> As psychology was the discipline that claimed authority over mental phenomena, it was left to experimental psychologists to distinguish scientific methods from spiritualist pseudoscience to secure their disciplinary survival.<sup>12</sup>

Methodological similarities alone would not have been a sufficient threat to the survival of experimental psychology had it not also been a central reason that the general population so readily received spiritualism.<sup>13</sup> A large part of spiritualism’s appeal lay in its compromise between modern and traditional ideologies. Science became increasingly popularized in the late nineteenth century, a process that spiritualism mimicked through “public lectures, lay experimentation and popular periodicals.”<sup>14</sup> Spiritualism allowed people to reconcile the concept of an omniscient God that they were raised with, with modern scientific evidentiary standards. By offering verbal or visual proof of communication occurring between

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<sup>10</sup> Janet Oppenheim, *The Other World: Spiritualism and Psychic Research in England, 1850–1914* (Cambridge: Cambridge University Press: 1985), 7; Alex Owen, *The Darkened Room: Women, Power, and Spiritualism in Late Victorian England* (Chicago: The University of Chicago Press, 2004), 4.

<sup>11</sup> Coon, “Testing the Limits of Sense and Science,” 149.

<sup>12</sup> *Ibid.*, 145.

<sup>13</sup> *Ibid.*

<sup>14</sup> Wolfram, *Stepchildren of Science*, 44.

mediums and spirits, people believed their faith in an afterlife was substantiated. Additionally, because it claimed to facilitate communication between the dead and the living, people were attracted by the idea of communicating with their deceased loved ones.<sup>15</sup> This was particularly appealing in an age of high death rates, evident in the rise of public attention to spiritualism during and after the American Civil War, which occurred just over a decade after the Fox sisters first made their claims.<sup>16</sup>

The class dimension of spiritualism's following was another factor that exacerbated the threat the religion made to experimental psychology's survival. While mystic beliefs had permeated the lower classes for centuries, spiritualism attracted a significant following in the upper classes, the traditional support base for academics, thereby transcending the class divide.<sup>17</sup> Petit noted in 2013 that this was a central motivation for psychologists trying to discredit spiritualism, as many "rich, refined, and educated" people were regular patrons of clairvoyants.<sup>18</sup> American physician and neurologist George Beard, for example, discussed the upper classes' growing belief in the mystic in an 1878 article. He wrote of a conversation between himself and an acquaintance that was convinced by the demonstrations of a "well-known tricker."<sup>19</sup> The acquaintance, an "educated professional man," retold what he had witnessed to convince

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<sup>15</sup> Ann Braude, *Radical Spirits: Spiritualism and Women's Rights in Nineteenth-Century America* (Boston: Beacon Press, 1989), 6.

<sup>16</sup> Coon, "Testing the Limits of Sense and Science," 143.

<sup>17</sup> Bret E. Carroll, *Spiritualism in Antebellum America* (Bloomington IN: Indiana University Press, 1997), 13.

<sup>18</sup> Petit, *The Science of Deception*, 87.

<sup>19</sup> Beard, "Scientific Study of Human Testimony," 53.



Beard of the performance's validity.<sup>20</sup> After insisting that human senses alone were not valid enough evidence, Beard's friend became personally offended, and left shortly after.<sup>21</sup> This anecdote demonstrates both the implicit trust individuals had in their own perceptions and memories at this time, and how spiritualism was encroaching into the realm of scientific debate from within the educated classes.<sup>22</sup>

The public, media, and even psychologists themselves, were overwhelmingly curious about whether or not psychic phenomena could be explained or disproved using scientific methods. For many psychologists, despite believing that a connection with spiritualism would endanger the scientific reputation of their discipline, ignoring the public's fascination with the spiritual was not feasible. A significant amount of the funding psychologists received was provided on the condition that they pursued investigations into psychic phenomena.<sup>23</sup> Hugo Münsterberg, for example, claimed in 1910 that he had been asked almost weekly about spiritualistic phenomena since his arrival in the United States in 1893.<sup>24</sup> By 1913 he had caved into this pressure, conducting experiments on the clairvoyant Beulah Millar.<sup>25</sup> Academia, impacted by this strong influence on the direction of their research, was obliged to investigate spiritualistic claims or else lose the public's support and funding.

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<sup>20</sup> Beard, "Scientific Study of Human Testimony," 53.

<sup>21</sup> *Ibid.*, 53.

<sup>22</sup> Petit, *The Science of Deception*, 87.

<sup>23</sup> Coon, "Testing the Limits of Sense and Science," 146.

<sup>24</sup> Hugo Münsterberg, "My Friend, the Spiritualists: Some Theories and Conclusion Concerning Eusapia Palladino," *Metropolitan Magazine* 31 (1910): 571.

<sup>25</sup> Hugo Münsterberg, "The Case of Beulah Miller: An Investigation of the New Psychical Mystery," *The Metropolitan* 38 (1913): 16–18, 61–62.

Psychologists responded in one of two ways to the threat of spiritualism and increasing social interest in occult phenomena; either by including or excluding psychical research within the realm of psychological experimentation. It was through this intellectual dialogue over spiritualism's validity that interest in the experimental study of perception and memory emerged and became applied within a legal context. Working to establish psychology as an independent scientific discipline, the majority of psychologists believed that excluding psychic phenomena from scientific study was the best method of preserving their scientific integrity.

The two leading psychologists of the time took opposing views on this debate - William James, who championed the inclusion of psychic phenomena in the United States, and Wilhelm Wundt who spearheaded the movement against it from Germany. Both men were ardent supporters of the new psychology, each establishing the first psychological laboratory in their respective countries within a year of each other.<sup>26</sup>

While James and Wundt shared a similar career path, they had significant methodological differences that informed their conflicting positions on spiritualism. James agreed ideologically with the importance of utilising the scientific method to answer psychological questions, but he preferred to conduct his own research using traditional psychological methods. He favoured introspection and self-observation over experiments, and transferred control of the Harvard laboratory to Münsterberg soon after

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<sup>26</sup> James established his Harvard laboratory in 1878, and Wundt established his in Leipzig one year later in 1879. Andreas Sommer, "Psychical Research and the Origins of American Psychology: Hugo Münsterberg, William James and Eusapia Palladino," *History of the Human Sciences* 25 (2012): 24.

it had been established.<sup>27</sup> James believed that psychologists were obliged to study spiritual phenomena or risk stunting the growth of their new discipline, a position he defended repeatedly in scientific journals such as *Mind*, *Nature*, *Psychological Review*, and *Science*.<sup>28</sup> In a letter to Carl Stumpf in 1892, James wrote that scientific research into the mind was too new to have an established understanding of mental laws that would rule out spiritualist phenomena *a priori*, and thus psychology should not ignore spiritualism without first attempting to investigate its claims.<sup>29</sup> He was less committed than Wundt to the absolute implausibility of spiritualism, maintaining a neutral position until 1907 when the confirmatory reports of French researchers that communication with the dead was possible convinced him.<sup>30</sup>

Wundt, on the other hand, pioneered and relied exclusively on scientific methodology. He maintained this dedication to science in his position on spiritualism, believing that psychic phenomena were always fraudulent and based on trickery, and as such they were unscientific and unable to be subjected to genuine experimental analysis.<sup>31</sup>

It was Wundt's exclusory stance on spiritualism that garnered the most support from within the psychological discipline, becoming the orthodox position during the 1890s.<sup>32</sup> Prominent scholars such as Beard, Münsterberg, Hall, Jastrow, Cattell and Edward Titchener (1867–1927)

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<sup>27</sup> Doyle, *True Witness*, 11.

<sup>28</sup> Sommer, "Psychical Research and the Origins of American Psychology," 24.

<sup>29</sup> Coon, "Testing the Limits of Sense and Science," 147.

<sup>30</sup> Sommer, "Psychical Research and the Origins of American Psychology," 28.

<sup>31</sup> Wolfram, "Parapsychology on the Couch," 241.

<sup>32</sup> Coon, "Testing the Limits of Sense and Science," 147.

collectively undertook “a kind of scientific crusade” against spiritualism.<sup>33</sup> It was in the hope of delegitimizing spiritualism that these psychologists changed their focus from disproving psychical phenomena to understanding how people could believe in their validity. If they could prove experimentally that people’s perceptions and memories were either incomplete, manipulated, or a combination of both, then they could explain how significant numbers of mentally sound and intelligent people believed they could communicate with the dead.<sup>34</sup>

### **Ignoring Women in Early Experiments on Witness Reliability**

The idea of applying psychological research on deception and belief to a legal context first emerged in the late 1870s and resulted in the creation of a new branch of the discipline: the psychology of testimony. Beard was asked to assist in drafting a law prohibiting the clairvoyant trade, but found it would be impossible to do so while common sense standards were used to judge witness testimony.<sup>35</sup> In late nineteenth-century America, “healthy witnesses” were trusted implicitly, with the common understanding (and thus the belief jurors held) being that testimony could only be false if it were deliberately distorted. In cases where false testimony was given, senses, instinct and judgement were considered sufficient in detecting whether or not a witness was telling the truth, despite the subjective nature of these measures and the influence of prejudice.<sup>36</sup>

Disproving spiritualism on legal terms would thus be near impossible

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<sup>33</sup> Petit, *The Science of Deception*, 88; Sommer, “Psychical Research and the Origins of American Psychology,” 22, 23.

<sup>34</sup> Coon, “Testing the Limits of Sense and Science,” 149.

<sup>35</sup> Golan, *Laws of Men and Laws of Nature*, 231; Petit, *The Science of Deception*, 88.

<sup>36</sup> Beard, “Scientific Study of Human Testimony,” 53–55.

because thousands of witnesses who were prominent members of the community could testify to having spoken to the deceased through a medium, based on their own observations.<sup>37</sup> If psychologists proved the unreliability of perception, courts would then be able to acknowledge that distorted testimony could come from both “healthy” and “unhealthy” witnesses, thus undermining the central foundation of spiritualism’s credibility.

Beard published his experimental methodology and results on witness reliability in 1878. He used the “Russian Game,” an altered version of what is now commonly known as “Chinese Whispers,” to determine the extent to which information was distorted when passed verbally from one person to another.<sup>38</sup> The experiment involved each subject writing out their recollection of the story before relaying their statement to the next subject in a separate room, and so on.<sup>39</sup> Beard believed this method would ensure the fairness and validity of the results, as “conversation can only be accurately reported when it is taken down at once as the words are uttered,” and the experiment was repeated “sufficiently often.”<sup>40</sup> The results demonstrated that each person consistently manipulated the story, despite the experiment facilitating what was believed to be the ideal atmosphere for accurate recollection. The forms of story manipulation were diverse; additions, omissions, phraseology and main facts were all changed to varying degrees. While this experiment was useful in the context of spiritualism because it proved the unreliability of passed-on information (a

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<sup>37</sup> Petit, *The Science of Deception*, 88.

<sup>38</sup> Beard, “Scientific Study of Human Testimony,” 60.

<sup>39</sup> *Ibid.*, 60, 61.

<sup>40</sup> *Ibid.*, 61.

method that enabled spiritualism to spread quickly through word of mouth), later experiments focussed on individual distortion of facts. This allowed psychological research on testimony to be applied to a wider range of practical scenarios, not just those that involved second hand information.

Research into the reliability of witness accounts therefore emerged as a method of counteracting the increasingly popular belief in psychic phenomena. The public's interest in the paranormal framed the first fifteen years of experimental research into the psychology of testimony (c. 1880 to 1895), with research in America and Central Europe founded on establishing the universal unreliability of memory. The second half of this chapter argues that despite the prominent role gender played in the spiritualist movement, the resulting research that emerged ignored gender differences. Scholars not only neglected intrinsic or contextual factors that could impact the accuracy of an eyewitness's testimony, but excluded women subjects from experiments completely. The subjects of these experiments reflected psychologists' own demographic – white, educated and male. By generalizing this data to all human experience, these studies suggested that the male was the only standard that mattered.

Spiritualists had a complex relationship with gender. As historians have repeatedly highlighted, the religion was ideologically egalitarian, valuing women as individuals and enabling them to rise to leadership positions.<sup>41</sup> This progressive understanding of gender was rooted in their individualistic belief that each person contained the laws of nature within

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<sup>41</sup> Owen, *The Darkened Room*, 5.

their being, and therefore the ability to be a vessel for truth.<sup>42</sup> Women were also particularly revered as mediums because they were believed to have a “genuine spiritual power” inherent to their gender.<sup>43</sup> Spiritualists applied their egalitarian philosophy to their interactions with the wider public, and were actively involved with the women’s rights movement. They campaigned for more opportunities in women’s education and an end to female legal oppression in relation to marriage, the custody of children and access to property.<sup>44</sup> Spiritualists’ commitment to gender equality was one aspect of their individualistic dogma that called for an end to all social inequality, leading them to denounce several institutions vital to the fabric of American society, such as the church and the government.<sup>45</sup>

On the other hand, spiritualism’s gender equality was somewhat problematic because it was rooted in a specific definition of femininity as inherently passive.<sup>46</sup> Historian Alex Owen has outlined comprehensively how gender constructs constrained spiritualist women because the source of their equality was a very specific kind of femininity, one that “positioned women as individuals without social power”.<sup>47</sup> Spiritualist literature frequently portrayed an idealised image of women within the domestic sphere as wives and mothers, reinforcing traditional gender roles.<sup>48</sup> Therefore, while spiritualist women were able to achieve respect and

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<sup>42</sup> Braude, *Radical Spirits*, 6.

<sup>43</sup> Owen, *The Darkened Room*, 8.

<sup>44</sup> Braude, *Radical Spirits*, 56.

<sup>45</sup> *Ibid.*

<sup>46</sup> Owen, *The Darkened Room*, 10.

<sup>47</sup> *Ibid.*, 12.

<sup>48</sup> *Ibid.*, 8.

positions of authority within the religion, they did so while conforming to wider prescriptive values that dictated idealised behaviour.

When responding to the threat of spiritualism, psychologists of testimony did not directly engage with spiritualists' progressive treatment of women. This is not particularly surprising, given that their chosen method of discrediting the religion was to prove the inaccuracy of eyewitness accounts, not to negate spiritualism's gender ideology. Psychologists during this era preferred to project impartiality towards social issues, remaining quiet on the controversy surrounding 'the woman question'.<sup>49</sup> However, it is important not to brush away the added threat that spiritualism's approach to gender had on the psychological discipline. Historian Andreas Sommer has described spiritualism as a threat to "rationality and the scientific and social order."<sup>50</sup> While the threat to rationality and science is a clear reference to the conflict between modernity and religion at the end of the nineteenth century, this quote also rings true when applied to spiritualism's position on gender. Women were allowed to "flourish" under spiritualist ideals, while science, and particularly psychology, continued to diminish female abilities and contributions.<sup>51</sup> For the purposes of most historical studies, the connection between psychology and spiritualism has been understood as a scientific response to a pseudoscientific religion. Alternatively, this connection could also be understood as a discipline that conformed to traditional gender roles responding to one with a more gender inclusive ideology. From this

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<sup>49</sup> Shields, "Functionalism, Darwinism, and the Psychology of Women," 739.

<sup>50</sup> Sommer, "Psychical Research and the Origins of American Psychology," 24.

<sup>51</sup> Owen, *The Darkened Room*, 5.



perspective, psychologists' lack of female subjects and the absence of any discussion of gender demonstrate how psychologists passively reinforced and replicated the social order that spiritualists denounced.

There exists no evidence to suggest that ignoring gender (as well as other axes of difference such as race and age) in initial experimentation was the outcome of a conscious, scientifically informed decision. Instead, it is next argued that a combination of Wundtian ideology, tradition and practical limitations resulted in the exclusion of women as subjects and from psychological discussion in the psychology of testimony up until the mid-1890s. During this period, memory experiments developed quickly through the repeated process of experimentation, publication, and criticism within the discipline. These changes gradually introduced more life-like conditions, making experiments on the psychology of testimony more applicable to practical scenarios, such as legal cases.

The scholars who undertook this work would not conform to our modern understanding of psychologists. Pioneers of experimental psychology came from diverse intellectual backgrounds, particularly from the physical sciences. William James, for example, obtained his medical degree from Harvard, and developed an interest in psychology and experimental method only after traveling to Germany and meeting psychologists such as Helmholtz and Wundt.<sup>52</sup> Franz von Liszt was a German jurist whose interest in reality experiments stemmed from a desire to create a modern scientifically informed German penal policy.<sup>53</sup> His

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<sup>52</sup> Mandler, *A History of Modern Experimental Psychology*, 62.

<sup>53</sup> Mülberger, "Teaching Psychology to Jurists," 62; Wolfram "'God Save Us From Psychologists as Expert Witnesses,'" 342.

collaboration with psychologists and contribution to their discourse illustrates the close connection between memory research and the justice system in Germany. His associations with psychologists Stern and Lipmann further demonstrate the intertwined intellectual community that transcended disciplinary boundaries.<sup>54</sup>

Wundt, who spearheaded psychology's exclusionary approach to spiritualism, was a pioneering German psychologist whose methodological developments and teachings served as the framework for psychological experiments on memory function. Wundt was a physician and physiologist, and used his medical background to undertake quantitative research to discover "the laws of psychic causality".<sup>55</sup> He believed that scientific methods were superior to philosophical study because they offered an explanation for behaviour, rather than a simple description of it.<sup>56</sup> His Leipzig laboratory marked the first use of experimental and mathematical evaluation of human thought.<sup>57</sup> Wundt's early method of memory experimentation relied on introspection, a form of self-examination. His students were placed in a controlled environment and given various stimuli, such as a ticking metronome, which they would observe.<sup>58</sup> They would then report on their feelings and thoughts of the experience, which Wundt would analyse.

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<sup>54</sup> Mülberger, "Teaching Psychology to Jurists," 69; Bartol and Bartol, 6–7.

<sup>55</sup> Golan, *Laws of Men and Laws of Nature*, 22.

<sup>56</sup> G. F. Arnold, *Psychology Applied to Legal Evidence and Other Constructions of Law* (Calcutta: Thacker, Spink and Co., 1906), 22.

<sup>57</sup> Leonard Bloomfield and Joseph K. Kess, *An Introduction to the Study of Language: New Edition* (Amsterdam: J. Benjamins Pub Co., 1983), xxi.

<sup>58</sup> S. A. McLeod, "Wilhelm Wundt," (2008), accessed September 16, 2016. [www.simplypsychology.org/wundt.html](http://www.simplypsychology.org/wundt.html).

In addition to pioneering the scientific approach to the human mind, Wundt also established new subject matter for psychological studies. Previous research had focussed largely on the “abnormal” human brain; finding out the causes and characteristics of people who deviate from the norm, such as convicted criminals.<sup>59</sup> The subject of Wundt’s work, however, was the “normal” adult human brain, allowing him to make generalisations about typical rather than exceptional behaviour.<sup>60</sup> In 1975 Shields pointed out that Wundt’s approach did not address gender, leaving it unclear whether or not he believed women as well as men could represent the “generalized adult mind,” or if he had included women subjects in his experiments. However, in 2008 Schmidgen wrote that Wundtian psychology was limited to the abilities of “normal adult men.” This later understanding of Wundt’s gender perspective is more persuasive, considering that his subjects were limited to his students and that women were not permitted to study psychology in Germany until the late 1890s (and even then there were very limited opportunities).<sup>61</sup>

Wundt’s positivist methodology and gender approach was also shared by another German psychologist, Ebbinghaus. Like Wundt, Ebbinghaus sought out “general laws governing mental cases,” as opposed to unique cases, and completely ignores women.<sup>62</sup> He pioneered the experimental study of immediate memory with his 1885 article “Memory: A Contribution to Experimental Psychology,” which was translated into

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<sup>59</sup> An interest headed by Cesare Lombroso’s *Criminal Man*.

<sup>60</sup> Shields, “Functionalism, Darwinism, and the Psychology of Women,” 739; Schmidgen, “Münsterberg’s Photoplays,” 1; David Hoogland Noon, “Situating Gender and Professional Identity in American Child Study, 1880–1910,” *History of Psychology* 4 (2004): 119–122.

<sup>61</sup> Schmidgen, “Münsterberg’s Photoplays,” 1, 5.

<sup>62</sup> Mülberger, “Teaching Psychology to Jurists,” 74.

English in 1913.<sup>63</sup> Ebbinghaus conducted his research on the fundamental assumption that to correctly study human behaviour it must be simplified.<sup>64</sup> He used nonsensical syllables, one of the most basic forms of human communication, to apply this doctrine to his experimental study of memory. Beginning with himself as the sole subject, Ebbinghaus conducted experiments on the association theory by looking at how repetition increased the associations between words.<sup>65</sup> His methodology involved studying a list of syllables, which he would return to a day later to study again until he could recollect the list in its entirety.<sup>66</sup> To test the impact of a shorter or longer initial study period on his ability to recollect accurately, he would repeat the experiment, changing the number of times he would study the list on the first day from between one to sixty-four times.<sup>67</sup> Ebbinghaus later utilized this methodology to experiment on a group of his students, and concluded that the longer someone was allowed to study the syllable lists on the first viewing, the more accurate their recollection would be the next day.<sup>68</sup>

Wundt's first assistant at his Leipzig laboratory was James McKeen Cattell, an American who became the first professor of Psychology in the world at the University of Pennsylvania.<sup>69</sup> Cattell was a firm believer in his teacher's methods, focusing on scientific methodology and quantitative

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<sup>63</sup> Ebbinghaus, "Memory," 155–156.

<sup>64</sup> Winter, *Memory*, 200.

<sup>65</sup> C. Alan Boneau, "Hermann Ebbinghaus: On the Road to Progress or Down the Garden Path," in *Portraits of Pioneers in Psychology*, eds. Gregory A. Kimble and Michael Wertheimer, vol. 3 (Mahwah, NJ: Lawrence Erlbaum Associates Inc., 1998), 53.

<sup>66</sup> Elizabeth Loftus, *Eyewitness Testimony* (Cambridge, MA: Harvard University Press, 1996), 24, 53.

<sup>67</sup> Loftus, *Eyewitness Testimony*, 24.

<sup>68</sup> *Ibid.*, Winter, *Memory*, 200.

<sup>69</sup> Golan, *Laws of Men and Laws of Nature*, 231; Bloomfield and Kess, "An Introduction to the Study of Language," xx.

results.<sup>70</sup> He did, however, expand on the analysis of scientific data, assessing memory recollection according to its probable reliability. Through experimentation he sought a formula that could objectively discern the accuracy of someone's memory. The influence of Wundt's male-only approach is clear in Cattell's articles – "V.-Mental Tests and Measurements" (1890) and "Measurements of the Accuracy of Memory Collection" (1895).<sup>71</sup> Collective differences or gender are not explored in either article, instead, like Wundt, Cattell's research aimed to find all-encompassing conclusions about how the "normal" human brain functioned by using only male subjects.<sup>72</sup>

An example of one of Cattell's experiments on memory is *Number of Letters repeated on once Hearing*.<sup>73</sup> Basing his methodology off Ebbinghaus' 1885 experiment, Cattell recited a stream of letters to a subject, who then had to repeat the letters in the same order.<sup>74</sup> Cattell ensured the validity of his data, and the scientific integrity of his experiment, in three ways. Firstly, he kept the same amount of time between letters – a rate of two letters per second.<sup>75</sup> He also repeated the experiment to each individual three times using different letters, to determine that his data clearly represented their ability, and was not based on chance. Finally, he used only consonants in the stream of letters to avoid syllables, as combined sounds

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<sup>70</sup> Golan, *Laws of Men and Laws of Nature*, 231.

<sup>71</sup> Cattell, "V. Mental Tests," 373; James McKeen Cattell, "Measurements of the Accuracy of Recollection," *Science* 2 (1895): 761–66.

<sup>72</sup> Cattell, "Measurements of the Accuracy of Recollection," 761.

<sup>73</sup> Cattell, "V. Mental Tests," 378.

<sup>74</sup> Ebbinghaus, "Memory," 155–56.

<sup>75</sup> Cattell, "V. Mental Tests," 378.

would be more easily remembered than standalone letters.<sup>76</sup> By randomizing the letters, the experiment avoided skewed results, as this ensured that the stream of letters had to be remembered through hearing alone rather than mnemonic devices.

Cattell acknowledged gender differences in memory in his 1895 article by outlining gender comparison as an area for future research.<sup>77</sup> The article itself was a significant step in the history of memory experimentation as it was the first work to diversify the time between exposure and recollection. In doing so, it introduced delays similar to those between an eyewitness observation and subsequent police statement or court testimony, and his research was thus more applicable to law than earlier, less realistic, studies.<sup>78</sup> Unlike Cattell's previous work, which described only his methodology, Cattell also included the results and his analysis from this experiment. The experiment explored the function of various forms of memory invoked in a variety of scenarios, including memories of universal experiences, facts, and measureable phenomena.<sup>79</sup> Questions that Cattell asked his subjects ranged from the weather on a given day, the capital city of France, estimations of the weight of inanimate objects, the distance between two buildings, and the time between two noises.<sup>80</sup> To explore whether confidence in memory correlated with the accuracy of the account, he also asked the participants to rate their confidence in their answers.<sup>81</sup> Sporer has

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<sup>76</sup> Cattell, "V. Mental Tests," 378.

<sup>77</sup> The article reports on the methodology and results of an experiment Cattell undertook in March 1893 on his junior class at Columbia College.

<sup>78</sup> Loftus, *Eyewitness Testimony*, 27.

<sup>79</sup> Cattell, "Measurements of the Accuracy of Recollection," 761.

<sup>80</sup> *Ibid.*, 761–763.

<sup>81</sup> *Ibid.*, 761.

noted the importance of this article to the wider development of the psychology of testimony, as Cattell was one of the first scholars to demonstrate quantitatively the unreliability of casual observations.<sup>82</sup>

The correlation between Wundt's positivist approach and the neglect of female subjects is clear when looking at research by George Beard, a scholar whose work existed outside of Wundt's intellectual influence. Beard was an American who had not studied in Germany and he had a background not in psychology, but the physical sciences. Additionally, his three-part article "The Scientific Study of Human Testimony," published in 1878, predated the establishment of Wundt's laboratory by a year.<sup>83</sup> His work on witness testimony is therefore unique as he was not entering an academic discussion directed by Wundt, but rather exploring the area from a new perspective.

While Wundt, Ebbinghaus, and Cattell's experiments, discussed above, included only male subjects and ignored gender differences, Beard's test subjects were "intelligent, liberally-educated persons of both sexes."<sup>84</sup> Including women and treating their data collectively with the men's implies that Beard was blind to gender difference in that he believed both men and women were needed to represent normality. This understanding contrasted with Wundt's, who believed that only men were representative of the normal human mind.<sup>85</sup> Therefore, considering that all male subjects were sufficient in ascertaining normal human behaviour was a practice that can

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<sup>82</sup> Sporer, "A Brief History," 326.

<sup>83</sup> Beard, "Scientific Study of Human Testimony," 55.

<sup>84</sup> Unfortunately the number of subjects or the gender ratio is not explicitly stated. Ibid., 61.

<sup>85</sup> Wundt and Gross' test subjects were similar, however, in that they shared a class make up. They both used their university students as test subjects, who were from privileged social and economic backgrounds.

be traced directly back to Wundt's influence, and it continued to be used and accepted by subsequent scholars even when other parts of his methodology was altered.

Three additional and related criticisms were levelled against early research on the psychology of testimony; these all derive from researchers' practice of using members of their university classes as experimental subjects. These criticisms and the subsequent amendments that were made to experimental methodology steered experiments to better replicate reality. They thus facilitated the inclusion of female subjects that began from the mid-1890s onwards. The first shortcoming levelled against these initial experiments was that they facilitated the best possible environment for accurate recollection. As Beard discussed in his 1878 article on experiments and human testimony, the lack of excitement, time pressure, and distractions meant that memory should theoretically be "at its best."<sup>86</sup> Other scholars expanded on the limits of undertaking experiments on a university class by adding that because the students were aware of the purpose of the experiment, they were actively trying to remember facts that an ignorant onlooker would have dismissed.<sup>87</sup>

Münsterberg acknowledged this drawback in *On the Witness Stand*, writing that his subjects were "highly trained, careful observers" who were fully concentrated on observing the material, and who were given few time restraints.<sup>88</sup> He did, however, argue that his work was still relevant because even in this ideal environment for observing and recollecting there were a

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<sup>86</sup> Beard, "Scientific Study of Human Testimony," 61.

<sup>87</sup> William Stern, "The Psychology of Testimony," *Journal of Abnormal and Social Psychology* 34 (1939): 4.

<sup>88</sup> Hugo Münsterberg, *On the Witness Stand*, 21.



high percentage of incorrect observations.<sup>89</sup> Thus, if false memories exist even in ideal circumstances, in practise the likelihood of falsehoods would be even higher.<sup>90</sup> However, experimental psychologists could not avoid the fact that their subjects were trained observers who were aware of psychological findings of which the average court-testifying lay man would be unaware. This expert knowledge would distinguish them from the average person, making their results ungeneralisable.

Using university students as subjects also meant that the participants all came from similar demographic backgrounds. As psychologists were trying to create a practical use for their findings in law, this created an issue with accuracy because they were trying to apply findings from a select social group to an entire population. As historian Jill Morawski has shown, the subjects of early psychological experiments were white, educated college students who were usually male, a demographic that was clearly not representative of the population as a whole.<sup>91</sup> This specific subject range meant that psychological doctrine between 1880 and 1900 largely neglected experiences of people belonging to other social groups such as race, age, socio-economic status and gender. Women were ignored, and psychological publications offered no practical solutions for reversing this gender bias.<sup>92</sup> Early psychological work on memory was therefore useful in asserting a generalised understanding of memory reliability, but with such a uniform group of subjects psychologists were unable to make

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<sup>89</sup> Hugo Münsterberg, *On the Witness Stand*, 21.

<sup>90</sup> *Ibid.*, 22.

<sup>91</sup> Jill Morawski, *Inventing the Psychological: Toward a Cultural History of Emotional Life in America* (New Haven, CT: Yale University Press, 1997), 162.

<sup>92</sup> Cattell, "Measurements of the Accuracy of Recollection," 762.

any nuanced arguments about how memory functioned for different groups of people in different scenarios.

In addition to factors of identity diversity, there was also uniformity in subjects' life experiences that could have skewed experimental results. Cattell acknowledged this in detail in his 1895 article, pointing out that the different backgrounds and upbringings of his subjects would have impacted on the kinds of answers they were able to give accurately.<sup>93</sup> A man who grew up on a farm, for example, would be more likely to correctly answer the question about which way a horse in a field stood – head or tail to the wind – than someone who grew up in the city.<sup>94</sup> The circumstances of his experiment, therefore, had a distinct bias as its participants came from a similar demographic – they were all white male university students, mostly from upper class urban backgrounds. In this area of his article it is clear that Cattell was publishing his findings in a relatively new field, as he does not refer to any other scholars or psychological work. Instead of drawing generalist conclusions such as differences between men and women, Cattell aimed to explore and critically analyse the kind of information these answers could give.

In conclusion, the psychology of testimony's first experiments on memory from its conception around 1880 to 1895 ignored gender as a differentiating factor, as it did class and age. Overlooking women as experimental subjects was the norm, despite the sub-discipline emerging as a rebuttal to a gender progressive religion, spiritualism. Instead of focusing

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<sup>93</sup> Cattell, "Measurements of the Accuracy of Recollection," 762.

<sup>94</sup> Ibid.

on gender distinctions, experimental psychologists aimed to discredit spiritualism's ideology by proving how the fallibility of human memory and recollection enabled people to genuinely believe in psychic phenomena, removing spiritualism's threat to their discipline's survival. The process of experimentation excluded women, instead using students, who were all white, male, and came from relatively privileged backgrounds, as representative of the able-minded human experience, ensuring that gender perspectives could not be explored. This chapter argued that early experiments on witness reliability ignored women due to a combination of Wundt's influential positivist approach and the practice of using students as experimental subjects. By using only male data to generalise all "healthy" human minds, experimental psychologists were treating the male as the norm and thus reiterating the social structure of the time. This treatment of gender had a lasting legacy within the discipline despite diversification into identity differences (i.e. age, race and gender) from 1895 onwards, prevalent most notably in Münsterberg's *On the Witness Stand*, discussed in Chapter 4.

### **Chapter 3: Analysis of Social Groups and the Impact of Identity on Reliability**

From the early 1890s psychologists began to organise and compare data according to the markers of a subject's identity in experiments relating to eyewitness testimony. Society's changing fabric facilitated a shift away from sweeping arguments about the "healthy human brain" that were based on data from white male university students. As the kinds of subjects available to psychologists diversified, they began to investigate how memory functioned differently according to a subject's gender, age, and education. Particularly in the American context, where much of this research was being undertaken, the influx of immigrants from Europe, post-slavery adjustment, and the rising feminist movement all challenged the existing social hierarchy. The emerging concept of the "new woman" who could be financially independent, divorced, politically aware, and university educated challenged the superiority of the upper middle class man.<sup>1</sup> Psychologists engaged with the contemporary debate on gender roles when researching areas of mental function relating to eyewitness testimony, such as honesty, memory, recollection, and suggestion. Their research reinforced the traditional gender hierarchy by validating concepts of gendered intelligence that portrayed men as more reliable than women.

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<sup>1</sup> Holly J. McCammon, et al., "How Movements Win: Gendered Opportunity Structures and U.S. Women's Suffrage Movements, 1866 – 1919," *American Sociological Review* 66 (2001): 54.

Psychologists researching areas of mental function relating to eyewitness testimony used three different approaches when evaluating gender difference. While these approaches show that there was no uniform psychological understanding of gender differences in memory, perception and honesty between 1890 and 1920, this chapter argues that they collectively portray men as better eyewitnesses and diminish women's abilities in this area.

The first approach was to ignore gender distinctions. This was undertaken not by assuming gender equality and using male and female data collectively, but by using only male subjects and treating this data as representative of a broader norm. This approach draws from the methodology of generalized psychological studies outlined in the previous chapter. Although female data became increasingly available during this time period, this is not reflected in their representation as test subjects. Growing numbers of women were being accepted into male universities, or into the female-only institutions affiliated with male universities, offering psychologists the opportunity to draw upon them as test subjects in the same way they relied on their male students for data on the average human male.<sup>2</sup>

Additionally, the increasing practice of using school age children as test subjects offered equal numbers of male and female subjects. Despite these opportunities, which offered psychologists test subjects comprising of a more equal gender ratio, several scholars continued to use only male test

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<sup>2</sup> Between 1890 and 1905 the number of women studying in universities increased 400% (from 10,761 in 1890 to 25,000 in 1905); D. Collin Wells, "Some Questions Concerning the Higher Education of Women," *American Journal of Sociology* 14 (1909): 737.

subjects. The prevalence of this practice beyond the limits of necessity suggests two things – that using both male and female subjects was not considered scientifically necessary to represent the average person, and that questions of gender difference were not of interest to the psychologist undertaking the study.

The second and third approaches both validated existing prejudices against female witnesses by drawing upon biological and social understandings of gender difference. The second approach drew on conceptions of male biological superiority and from social Darwinian theory. This approach had intellectual ties to the gender distinctions made by criminologist Lombroso and the investigative judge Gross discussed in Chapter One. Studies that drew upon these hierarchical distinctions did so in two ways – firstly to support their data analysis in which they argued for male mental superiority, and secondly when there was an absence of female data, to add depth to the discussion.

The final experimental approach used by psychologists was to interpret male and female data according to social concepts of gendered intelligence. Psychologists using both child and adult subjects found that both genders excelled in different areas of recollection, and that these areas reflected their social roles. Namely, men and boys were more reliable at remembering analytical information and were resistant to the manipulation of memory during suggestive questioning.<sup>3</sup> Women, on the other hand, were more observant of their surroundings and therefore more reliable regarding

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<sup>3</sup> Stern, "Abstracts of Lectures," 271–273; Whipple, "Psychology of Testimony and Report," (1913): 264–265.

facts such as the weather, but were much more suggestible when exposed to authoritative influences, reflecting the idealized image of women as submissive.<sup>4</sup> Another reoccurring theme, although not an 'approach' per se, was the image of the pathologically lying young girl, which appears intermittently in these works without specific scientific justification.

This chapter consists of two parts: the first focuses on experiments with children and the second on those with adults. The first section begins with Stanley G. Hall's articles on children's honesty and intellect published in the early 1890s. His scholarship draws upon the second approach to gender, relying on biological explanations of male superiority. Hall's research demonstrates how questions of gender difference in a scientific context were investigated using existing biases against women as a foundation and highlights the strong underlying influence of social Darwinian ideas.

Next, this section moves on to discuss studies on children and suggestibility. In contrast to Hall's gendered approach, these experiments were motivated by a strong interest in the impact of age, and gender difference was subsequently treated as a peripheral consideration. First, it looks at Binet and Lipmann's experiments, published in the early 1900s, which exemplify the first methodological approach by using only male subjects and ignoring gender differences.<sup>5</sup> A discussion of William Stern, J. Varendonck, and Karl Marbe's (1869–1953) subsequent experiments follows, demonstrating how over time psychologists became more curious

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<sup>4</sup> Frederick E. Bolton, "The Accuracy of Recollection and Observation," *Psychological Review* 3 (1896): 287.

<sup>5</sup> Goodman, "Children's Testimony in Historical Perspective," 20.

about how social distinctions affected the suggestibility of the witness.

There is some evidence of the second approach – a belief in male biological superiority – in their analyses of data, where they reiterated societal assumptions by portraying the adult male as the most intellectually steadfast, and young children and women as easily manipulated and thus more susceptible to suggestion.<sup>6</sup>

The second half of the chapter outlines studies of adult gender differences in memory and perception, all of which draw upon the third approach – analysing male and female data according to ideas of gendered intelligence. It considers scholarship published in the United States and Germany separately. It argues that American psychologists showed little interest in exploring adult gendered differences in memory, and in the few studies that were published on the topic they analysed their data according to conceptions of gendered mentality. In Germany, however, there was a more active debate about the nature of these differences. The contribution of a female scholar, Marie Borst, saw a departure from the ‘male superiority’ narrative through the depiction of women as having more reliable memories.

### **Gender Differences in Memory and Honesty in Children**

Experiments investigating the impact of age on memory, reliability and honesty offered psychologists the earliest opportunity to compare gendered data. By using school children as test subjects, child psychologists were able to escape a central criticism that was levelled against their earlier

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<sup>6</sup> Varendonck and Marbe, discussed in Whipple, “Psychology of Testimony and Report,” (1913): 264–68.



counterparts in the psychology of testimony – that their subjects were from the same demographic. Generalized experiments on the “healthy” human mind were conducted on psychology students at university, who were overwhelmingly white, upper middle class, and male.<sup>7</sup> In contrast, experiments investigating age were conducted on classes at public kindergartens or schools, and included children from a variety of socioeconomic backgrounds, races and ethnicities and constituting a relatively balanced gender ratio.<sup>8</sup> Psychologists were therefore able to collectivize their data according to different identity markers, make generalizations, and, importantly, draw conclusions about gender difference.

The studies produced by child psychologists were closely linked to those of psychologists of testimony, as both sub-disciplines shared an interest in how memory functioned. Psychology of testimony’s interest in the research undertaken by child psychologists is demonstrated by Münsterberg’s engagement with their work. In *On the Witness Stand*, Münsterberg, a prominent Harvard psychologist, acknowledged that using children as subjects would ensure experimental results more closely resembled reality.<sup>9</sup> This was because, unlike university students who had a grasp on psychological principles and were aware of the purpose of the experiment, children were naïve to both. Münsterberg claimed that children’s ignorance created an experience more authentic to being an eyewitness, in the respect that at the time of exposure to an event they were

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<sup>7</sup> See Chapter Two for discussion of the conception of “healthy” and “normal” relating to the white adult male.

<sup>8</sup> Hall, “The Contents of Children’s Minds on Entering School,” 139–173.

<sup>9</sup> Münsterberg, *On the Witness Stand*, 51.

unaware of the future necessity of recollecting it. Using children as subjects thus increased the relevance of experimental data to legal cases and strengthened forensic psychology's campaign to become applied in law.

Münsterberg further acknowledged the relevance of child psychology's portrayal of gender differences to the psychology of testimony when he discussed experiments on learning. He wrote that experiments indicated that girls and boys excel in different aspects of memory recollection.<sup>10</sup> Whereas girls retained more complete information, they tended to falsify more, while boys recalled a higher percentage of correct information.<sup>11</sup> Unfortunately, as Münsterberg does not directly name the psychologist whose work he is referring to, the experimental method used to substantiate these conclusions cannot be verified. However, its inclusion suggests that forensic psychologists drew on studies outside of their sub-discipline, particularly research done by child psychologists, to better understand intellectual gender differences.

Early child psychology aimed to understand how children attained knowledge; this objective and the methods used to reach it were tailored to the interests of the education system. This chapter next discusses the work of Hall, who was a pioneering American child psychologist. Hall's commitment to social Darwinist principles permeated his research on children's memory and honesty, and is an example of the second approach to gender proposed at the beginning of this chapter – using conceptions of male biological superiority as evidence of mental superiority. He published

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<sup>10</sup> Münsterberg, *On the Witness Stand*, 54.

<sup>11</sup> Ibid.

several articles in the early 1890s on his experiments on school-aged children that he hoped would clarify how gender differences function, and thereby inform changes to the education system and parents' knowledge of child rearing.<sup>12</sup>

### **G. Stanley Hall, Male Biological Superiority and Gender Roles**

In 1975, Shields discussed the influence of biological explanations of difference on the psychology of women at the turn of the century, writing “that science played handmaiden to social values cannot be denied.”<sup>13</sup> This is especially so in Hall's case, where his use of social Darwinist ideology and conclusions supporting the idea of gendered areas of intelligence reflect his conservative views on gender. Like Hans Gross, discussed in Chapter One, Hall was strongly influenced by social Darwinism, which provided scientific legitimization of Victorian social attitudes, and particularly of the marginalisation of women.<sup>14</sup> He regarded the doctrines of Darwinian evolution so highly that he believed they should be the foundation of scientific principles, rather than physics.<sup>15</sup> He believed that women, as well as people of colour and children, represented a lower form of human development, a scale that placed the white adult male at the apex.<sup>16</sup> In 1902,

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<sup>12</sup> G. Stanley Hall was another of Wundt's students, who became a noted American scholar and President of Clark University; Ludy T. Benjamin Jr., "Hugo Münsterberg's Attack on the Application of Scientific Psychology," *Journal of Applied Psychology* 91 (2006): 415.

<sup>13</sup> Shields, "Functionalism, Darwinism, and the Psychology of Women," 753.

<sup>14</sup> Lester F. Goodchild, "G. Stanley Hall and an American Social Darwinist Pedagogy: His Progressive Educational Ideas on Gender and Race," *History of Education Quarterly* 52 (2012): 64; Lesley A. Diehl, "The Paradox of G. Stanley Hall: Foe of Coeducation and Educator of Women," *American Psychologist* 41 (1986): 868.

<sup>15</sup> Diehl, "The Paradox of G. Stanley Hall," 868.

<sup>16</sup> Goodchild, "G. Stanley Hall and an American Social Darwinist Pedagogy," 70; Thomas Fallace, "The Savage Origins of Child-Centered Pedagogy, 1871–1913," *American Educational Research Journal* 52 (2015): 85.

he claimed that women were “far nearer the life of the child” than men because their thoughts were less specialized and more generic.<sup>17</sup>

Hall’s work provided scientific validation of existing societal roles with women’s purpose being to bear and raise children, thus ensuring the future of the human race and its continued evolution.<sup>18</sup> At various points of Hall’s academic career he referred to unmarried women as “sterile”, “selfish” and not “true” women.<sup>19</sup> Men, on the other hand, he believed to be intellectually superior, society’s protectors and innovators, the people most capable of achieving intellectual advancement.

Social Darwinism informed Hall’s perspective on education; he campaigned for individualized education based on a students’ “nature, instincts, or racial heredity.”<sup>20</sup> One of the chief tasks of schools, according to Hall, was to imprint gender roles to prepare children for their future social responsibilities. While schools could be coeducational, they should cater to each gender’s specific educational needs, teaching them skills in areas where they are biologically inclined to succeed. Young girls should be taught languages, religion and art, avoiding “strenuous mental work” that would compromise their future success as mothers.<sup>21</sup> They should also be socialized into being soft-spoken and subservient, traits that would facilitate submission to the male figures in their lives, befitting their current roles as

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<sup>17</sup> G. Stanley Hall, “Normal Schools,” 183, 184.

<sup>18</sup> Minton, “Psychology and Gender,” 614.

<sup>19</sup> Goodchild, “G. Stanley Hall and an American Social Darwinist Pedagogy,” 85.

<sup>20</sup> *Ibid.*, 76.

<sup>21</sup> *Ibid.*, 83; G. Stanley Hall, *Adolescence: Its Psychology and Its Relations to Physiology, Anthropology, Sociology, Sex, Crime, Religion, and Education* (New York: Appleton, 1904), 623.

daughters and their future roles as wives.<sup>22</sup> While girls were receiving this 'feminine' education, young boys were to obtain the masculine counterpart. Hall expressed concern over the impact of "progressive feminization" in both public and private schools on young boys. He believed the greater prevalence of female teachers in the public school system, as well as the mother's dominant role in parenting, was cause for alarm and a threat to social structure.<sup>23</sup> To counteract these supposedly detrimental influences, Hall argued that fathers should have more prominent roles in their sons' care, and encouraged bullying and violence in schools as "ways of attaining manly independence."<sup>24</sup>

Hall established the journal *The Pedagogical Seminary* in 1891 as a platform to communicate psychological developments in education, focusing on children's mental capacities. The first issue included two articles that featured comparisons between the accuracy of boys' and girls' statements – "Children's Lies," and "The Contents of Children's Minds Upon Entering School."<sup>25</sup> These articles offer insight into how psychologists constructed gender differences in two areas that are relevant to the accuracy of witnesses' testimony – their willingness to give an accurate account (honesty), and their intellectual capacity to do so (memory).

The first of these articles, "Children's Lies," uses scientific methodology to identify and understand patterns in children's behaviour when confronted with telling the truth or fabricating a lie. Four unnamed female teachers from Mrs Pauline A. Shaw's kindergartens in Boston collected the

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<sup>22</sup> Minton, "Psychology and Gender," 614.

<sup>23</sup> Hall, "Normal Schools," 180–183.

<sup>24</sup> Minton, "Psychology and Gender," 614.

<sup>25</sup> G. Stanley Hall, "Children's Lies," *The Pedagogical Seminary* 1 (1891): 211–218.

data from about 300 children aged between twelve and fourteen.<sup>26</sup> Hall does not discuss the methodology behind this experiment, and it is unclear whether the results derived from general observations or questioning. Nevertheless, from the data collected, Hall distinguishes seven different “species” of children’s lies.<sup>27</sup> These include ‘pseudophobia’, ‘lie heroic’, ‘selfishness’ and ‘imagination and play.’ The kind of lying that is relevant to psychology’s conception of gender difference and truthfulness is ‘pseudomania.’<sup>28</sup> Labelled as the worst form of lie, Hall writes that it is rare, and occurs usually in girls when a desire to show off prompts them to lie pathologically and form a new reality. While girls become “hysterical invalids” in their pursuit of attention, boys prefer more clever means of imaginary scenarios, such as “fooling and humbugging by tricks.”<sup>29</sup>

The ‘pseudomaniac’ description of young girls’ honesty conforms to the previous common unscientific understanding evident in Gross’ criminological handbook. Both scholars describe young girls as delusional and attention seeking; Hall’s article thus legitimizes the devaluation of young girls’ perspectives within the scientific sphere. However, this article did not gain much traction within the discipline, and certainly not with psychologists of testimony who were more focussed on establishing the ability, not the willingness, of the witness to give an accurate account. While other works throughout the 1910s recycled this image of a pathologically lying young girl, their methods were largely anecdotal rather than

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<sup>26</sup> Hall, “Children’s Lies,” 211.

<sup>27</sup> Ibid.

<sup>28</sup> Ibid., 216.

<sup>29</sup> Ibid.

experimental, and as such had little impact on the psychology of testimony.<sup>30</sup>

Gender comparisons are similarly included in Hall's second article, "The Contents of Children's Minds on Entering School." Hall was inspired by an 1869 study undertaken in Germany on Berlin school children, although he moderated the methodology in response to several criticisms.<sup>31</sup> As with the lying experiment, female teachers collected the raw data, but in this instance the means by which it was collected is specified – by filling out questionnaires that Hall, his colleagues, and his graduate students had constructed.<sup>32</sup> The questionnaire included 134 questions that involved recognising objects such as a beehive, knowing the origin of wood and cotton, and being able to tell the left from the right.<sup>33</sup> The purpose of gender comparison in this experiment was to discover what areas of knowledge boys and girls excelled at before any formal education, and his analysis argues for the existence of gendered patterns of intelligence that corresponded to traditional male and female social roles.<sup>34</sup>

Another element of this article was the inclusion of data from an 1883 Kansas City study that replicated Hall's own experiment from his published

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<sup>30</sup> See following source for example of anecdotal evidence used against the reliability of a young girl; William Healy and Mary Tenney Healy, "Pathological Lying, Accusation and Swindling: A Study in Forensic Psychology," *Criminal Science Monographs* 1 (1915): 1–278.

<sup>31</sup> Hall, "The Contents of Children's Minds on Entering School," 139.

<sup>32</sup> *Ibid.*, 147; Benjamin, "Hugo Münsterberg's Attack," 415.

<sup>33</sup> Hall, "The Contents of Children's Minds on Entering School," 150, 151.

<sup>34</sup> Hall's understanding of gendered intelligence was closely connected to the gender bias inherent in IQ testing in the early twentieth century. He was particularly influential on American Psychologist Lewis Terman (1877–1956), as is evidenced in Terman's 1916 revision of the Stanford-Binet test. Although Terman found that intelligence of children up until fourteen years of age was not decidedly different, he believed boys were better at arithmetic and girls at answering comprehension questions; Peter Hegarty, "From Genius to Gendered Intelligence: Lewis Terman and the Power of the Norm," *American Psychological Association* 10 (2007): 132, 136–139.

findings earlier that year. Superintendent I. M. Greenwood conducted the experiment on 678 children in their first year of schooling. Hall included the raw data from his own and the Kansas experiment in table format, categorised into several collective groups according to children's race, gender and ethnicity.<sup>35</sup> The groups can be interpreted as three sets of perceived opposites, which can be compared to the collective average, included under the label 'kindergarten children'. These opposites are girls and boys, 'coloured' and white, and Irish children and American children. The division of children according to these traits illustrates the tension in late nineteenth-century America regarding the changing societal structure, and the ways in which psychologists were trying to understand this issue through the perspective of children's education.<sup>36</sup>

Hall's gender analysis supports the earlier Berlin experiment's conclusion – that boys had a greater overall knowledge than girls before formal education.<sup>37</sup> His discussion of the intricacies of this knowledge validated understandings of 'feminine' and 'masculine' intelligence, and reinforced the belief that women were biologically determined for a life of domesticity and motherhood. Girls excelled in topics that were "easy and widely diffused," such as thunder, rainbows, home and family life. Alternatively, boys surpassed girls in "harder and more special or exceptional" topics such as knowledge of the cube and pyramid, numbers

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<sup>35</sup> Hall, "The Contents of Children's Minds on Entering School," 149.

<sup>36</sup> The changing social structure in late nineteenth century America was caused by the increasing diversity of the American population due to the influx of immigrants (many of whom were Irish), as well as changing ideas of race and gender following the Civil War and the abolition of slavery.

<sup>37</sup> In the Kansas study, boys surpassed girls in 34 out of 49 questions. In the Berlin study, boys surpassed girls in 75% of the questions; Hall, "The Contents of Children's Minds on Entering School," 152.



and animals.<sup>38</sup> Hall wrote that boys had a more developed intellect because they had a greater grasp of difficult concepts, they were more imaginative, analytical and were better able to process and evaluate information compared to girls.<sup>39</sup>

Hall claimed that the explanation of the gendered pattern of knowledge lay in the supposed biologically determined interests of each gender, rather than unequal exposure to certain topics. He believed that the reason that girls were better than boys in areas of domesticity was because they had a *natural* interest in domestic life, and not because of circumstantial reasons such as spending significant time with their mothers, or familial expectations. This reinforced Hall's broader understanding of gender roles as being biologically ingrained rather than societally constructed.<sup>40</sup> Hall was able to use his experiment on children's knowledge to argue that women should remain at home, where he considered the data showed they were best suited and would find the greatest enjoyment. Boys, on the other hand, he believed should engage in the areas that they were interested in and excelled at – namely business and politics. From this logic, Hall concluded that even if girls were given the opportunity to study “masculine” topics such as numbers (or in cases where they could, but opportunities were restricted beyond a certain age), they would not excel as well as boys because they lacked an ingrained interest.

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<sup>38</sup> Hall, “The Contents of Children's Minds on Entering School,” 143.

<sup>39</sup> Ibid., 152.

<sup>40</sup> Ibid., 153.

## Ignoring Gender in Early Suggestibility Studies

Psychological studies on children became directly relevant to the field of testimony with the emergence of research on external suggestibility in the early 1900s. French psychologist Alfred Binet put forward the concept of two separate forms of suggestion – external and internal.<sup>41</sup> External suggestibility involved the subject's subconscious conformity to an authority figure or alternative account, whereas internal suggestion included manipulation of the memory within the witness' own thought process through stereotyping, a vivid imagination, or being distracted at the time of the event.<sup>42</sup> Where previous experiments by psychologists such as C. E. Seashore focussed on the power of direct ideas, and particularly on the impact of hypnotism, Binet's research investigated unintentional social influence, such as leading questions or submission to an authority figure.<sup>43</sup>

Children were vital to Binet's research because of their perceived ingrained obedience to adults. This attribute allowed children, as test subjects, to feel a level of submission to the experimenter akin to the level of submission felt by a witness when speaking to a police officer or judge. Like other early psychologists of testimony who explained the unreliability of human memory as a normal cognitive process, Binet sought to explain how suggestion could manipulate the memories of people of sound mind, and

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<sup>41</sup> Anne M. Ridley, "Suggestibility: A History and Introduction," in *Suggestibility in Legal Contexts: Psychological Research and Forensic Implications*, ed, Anne M. Ridley, et al. (Chichester, West Sussex: Wiley-Blackwell, 2013), 8; These ideas were first published in a 1894 article; Alfred Binet and Victor Henri "Natural Suggestibility in Children," *Consciousness and Cognition*, 20 (2011 [1894]): 394–398, and expanded on by Binet in his seminal work *La Suggestibilité* (1900).

<sup>42</sup> Ceci and Bruck, "Suggestibility of the Child Witness," 406.

<sup>43</sup> Hilary Haines and Graham M. Vaughan, "Was 1898 A "Great Date" in the History of Experimental Social Psychology?," *Journal of the History of the Behavioural Sciences* 15 (1979): 328; Goodman, "Children's Testimony in Historical Perspective," 19.

was not “an indication of psychological aberrance or weakness”.<sup>44</sup> Despite using children as test subjects, a method that Hall’s work demonstrates provided ample opportunity for gender comparison, Binet included only boys in his research.<sup>45</sup> Both he and Lipmann used a male-centric approach in their experiments on suggestibility, ignoring gender difference by only using male subjects and treating their data as representative of a wider norm.

Binet’s experiments, published in 1900, explored external suggestibility in children through image recollection. He showed his subjects, who were all between the ages of seven and fourteen, a poster with several items attached to it. The items included a coin, a stamp, a picture, and a photograph, and afterwards he asked the subjects to recall specific details about certain items.<sup>46</sup> He used two kinds of questions with differing levels of suggestion to discern whether the number of incorrect answers corresponded to the level of suggestion exerted upon the child. For example, when asking about the un-cancelled stamp on the poster, he asked either “wasn’t the stamp cancelled?” or “was the stamp cancelled?”<sup>47</sup> The experimental results showed that the more neutral wording of the second question received more accurate answers, while children were more likely to agree with the suggestion that the stamp was not cancelled implicit in the first question and answer incorrectly. The proportion of accurate replies was increased further when the children were asked open ended questions

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<sup>44</sup> Serge Nicolas et al., “Commentary: The Influence of Suggestibility on Memory,” *Consciousness and Cognition* 20 (2011): 400.

<sup>45</sup> Serge Nicolas, Yannick Gounden, and Rasyid Bo Sanitioso, “Alfred Binet on Eyewitness Testimony,” *Psychology & History / Psychologie & Histoire* 11 (2011): 33.

<sup>46</sup> Ceci and Bruck, “Suggestibility of the Child Witness,” 406; Raymond E. Fancher, *Pioneers of Psychology* (New York: Norton & Co., 1996), 76.

<sup>47</sup> Fancher, *Pioneers of Psychology*, 76.

such as “Describe what you saw on the poster,” and were left to write down their account away from the questioner.<sup>48</sup> Binet’s research thus demonstrated how easily a memory could be manipulated by the context in which it was recalled.

Lipmann, a German psychologist, likewise ignored gender as a point of difference in his research on suggestibility.<sup>49</sup> Lipmann (1911) found that children were liable to alter their memories in order to offer an account consistent with the implications that the questioner put forward.<sup>50</sup> He highlighted the differences between aspects of criminal scenarios that draw a child’s attention and those that would draw an adult’s. The same event could thus produce two very different recollections from a child and adult witness who were similarly exposed to it, and neither of these accounts would be intrinsically incorrect. The role of the investigator was to distinguish whether this difference was one that corresponded to each subject’s experience, or if the conflicting elements were introduced in subsequent retellings through suggestive forces.<sup>51</sup>

The tendency to emphasise age rather than gender is also demonstrated in the practically-framed work of Belgian psychologist J. Varendonck.<sup>52</sup> Varendonck undertook his event-tests on suggestibility to offer expert testimony in an infamous legal case where a man had been accused of the rape and murder of a nine-year-old girl, Cecile, based on the

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<sup>48</sup> Binet, *La Suggestibilité*, 294.

<sup>49</sup> Sporer, “The Psychology of Testimony Has Come of Age,” i; Lipmann and Stern founded an academic journal and an institute together.

<sup>50</sup> Ceci and Bruck, “Suggestibility of the Child Witness,” 407; Otto Lipmann, “Pedagogical Study of Report,” 253–261.

<sup>51</sup> Ridley, “Suggestibility,” 13.

<sup>52</sup> *Ibid.*, 11.

testimony of two of her playmates (one of whom was the accused's own daughter).<sup>53</sup> The girls initially claimed to not know what Cecile had done the day of her murder, however over the course of successive questioning sessions they offered a description and the name of her murderer.

Varendonck conducted an experiment where he replicated the witness's questioning experience to determine the kind of suggestion the witnesses would have been under. He deliberately used questions phrased in a similar way to those the magistrate asked to ensure his results were as close as possible to reality. For example, he asked the twenty-two subjects to name or describe the person who approached them earlier that morning in the schoolyard.<sup>54</sup> While no such person existed, a large proportion of the subjects – seventeen – named and described someone when asked leading questions.

Varendonck's study thus supported Binet and Stern's assertions that children were highly suggestible.<sup>55</sup> He testified to this conclusion in court, and the defendant was eventually acquitted, largely due to the unsound nature of the young girls' testimony.<sup>56</sup> Interestingly, the fact that the witnesses were girls did not factor into Varendonck's explanation of their unreliability. By focusing on their young age as opposed to their gender, Varendonck's work suggests that he did not consider it necessary to distinguish between young girls' and boys' reliability; their age alone was enough to discredit their testimony on scientific grounds.

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<sup>53</sup> Ridley, "Suggestibility," 11; Ceci and Bruck, "Suggestibility of the Child Witness," 406.

<sup>54</sup> Ceci and Bruck, "Suggestibility of the Child Witness," 406.

<sup>55</sup> Ridley, "Suggestibility," 11.

<sup>56</sup> Goodman, "Children's Testimony in Historical Perspective," 20.

While Binet, Lipmann, and Varendonck ignored gender differences in their studies on the relationship between age and suggestibility, psychologist Stern and jurist Marbe did factor in the gender of the witness in their own experiments on suggestibility. The analysis of gender difference, however, was peripheral and sidelined to the factor considered more influential – the subject's age.<sup>57</sup> Due to this lack of interest, neither scholar directly compares gendered data, instead relying on common understandings of gender difference – namely social Darwinism and the stereotype of the pathologically lying young girl in sexual cases.<sup>58</sup>

Stern's *Aussage* (testimony) experiments were methodologically very similar to the work of both Binet and Lipmann, with whom he frequently collaborated. All examined children from the same age bracket and used image recollection as the focus of questioning. In "Abstracts of Lectures on the Psychology of Testimony and on the Study of Individuality," (1910) Stern discusses his picture-test experiment, during which he showed subjects a picture of a living room and immediately afterwards asked them, using either open narrative form or direct questioning, to report on what details they could remember.<sup>59</sup> Stern found that there was a correlation between age and suggestibility - 50 per cent of the answers seven year olds gave to suggestive questions were false, while this percentage decreased to 20 per cent in 18 year olds.<sup>60</sup> Stern included girls in his experiments, although his English publications lack direct numerical comparison of

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<sup>57</sup> Mülberger, "Teaching Psychology to Jurists," 71; Stern, "Abstracts of Lectures," 271–272; Whipple, "Psychology of Testimony and Report," (1913): 264–265.

<sup>58</sup> Stern, "Abstracts of Lectures," 271–273; Guy Montrose Whipple, "Psychology of Testimony and Report," (1913): 264–265.

<sup>59</sup> Stern, "Abstracts of Lectures," 271–272.

<sup>60</sup> *Ibid.*, 272.

accuracy by gender, instead broadly claiming that “suggestive questions operate with especial force” on women, children and uneducated people.<sup>61</sup> Again, we find evidence of a psychologist drawing, although not explicitly, on social Darwinian hierarchies equating the young and the female as somehow lesser – in this case less mentally steadfast – than the educated adult male.

Marbe’s expert testimony discussed by Whipple (1913) demonstrates how a psychologist considered the gender of a witness noteworthy within a practical context. In the German case, several adolescent schoolgirls accused their teacher of sexual assault, giving “very detailed and decidedly incriminating” accounts.<sup>62</sup> Due partially to Marbe’s testimony, which claimed that the contradictory changes in the girls’ accounts over time demonstrated that they were the result of suggestion and therefore unreliable, the teacher was eventually acquitted. Marbe cited generalizations made specifically about young girls rather than children in general to discredit the witness testimony.<sup>63</sup> He claimed that young girls could generally not be relied on in cases of sexual assault, which Whipple agrees with in his discussion, writing that the case demonstrated how rumour and discussion of sexual situations greatly influenced the minds of young girls.<sup>64</sup>

In sum, psychological experiments on children’s honesty, knowledge, and suggestibility between 1890 and 1920 validated traditional understandings of gendered intellect. In Hall’s work there are explicit

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<sup>61</sup> Stern, “Abstracts of Lectures,” 273.

<sup>62</sup> Whipple, “Psychology of Testimony and Report,” (1913): 264.

<sup>63</sup> *Ibid.*, 264–265.

<sup>64</sup> *Ibid.*, (1913): 265.

references to social Darwinism, which along with his experimental data, he used to validate social roles. In studies on suggestibility, Binet and Lipmann's earlier work overlooked gender difference, treating their all-male subjects as representative of the norm. Varendonk and Marbe's later studies considered gender difference peripherally, always to the disadvantage of young girls. Their research shows that even when there was not experimental evidence suggesting male superiority, psychologists used social Darwinian principles or gendered stereotypes to suggest that whatever the male data implied, lesser results could be expected from young girls.

### **Gender Differences in Memory and Perception in Adults**

Once experimental psychologists began to explore gender differences in children's memory and suggestibility, interest began to grow in relation to how these differences functioned in adults. Psychologists generally found that men were superior to women in remembering, a result which they validated using the third approach – concepts of gendered intelligence. The changing gender norms of the Progressive Era brought questions of gender difference into psychological focus. The emerging notion of the New Woman, who could work outside of the home and earn a higher education, combined with social movements, such as women's suffrage and feminism, challenged traditional gender roles.<sup>65</sup> These changes were received with mixed reviews by university academics, who on the one hand were using traditional gender roles as representative of a natural order, but were also receiving female

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<sup>65</sup> Rutherford and Granek, "Emergence and Development of the Psychology of Women," 21.



students into their classes and witnessing for themselves their abilities. A relatively high number of women were accepted into psychology, mostly due to the relative infancy of the discipline and its need to attract as many students as possible to ensure disciplinary survival.<sup>66</sup> A practical outcome of this changing demographic was that psychologists who relied on their classes for experimental subjects were able to include female data and offer descriptions and explanations of gender differences in witness accuracy.

The dialogue between American and German scholars over which gender could perceive and recollect more accurately is the focus of the next part of this chapter. The scholars discussed are Americans Frederick E. Bolton and Arthur I. Gates, and Germans, Stern, Wreschner, Borst (the only woman engaged in this dialogue), Shramm, and Vos. Their work included experimental data on both men and women and found marginal differences in the overall accuracy of recollection between the two sexes, at times favouring women and at other times favouring men. There is, however, a general tendency to depict mental strengths that correspond to ideas of gendered intelligence, regardless of which gender appears more accurate overall.

Gendered studies on areas relating to eyewitness reliability had equal relevance to the psychology of education and the psychology of testimony. Experiments on memory and perception were used not only to ascertain which gender was more accurate at recalling an event, but also how effectively either gender could learn. They could therefore not only affect

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<sup>66</sup> Psychology's reputation as a "soft" science (and therefore "feminine" when compared to other sciences such as physics and chemistry) also contributed to the number of women accepted. Rutherford and Granek, "Emergence and Development of the Psychology of Women," 20.

how male and female testimony was regarded, but they could also be used to either validate or reject the idea that women were capable of learning to a tertiary level. Any studies on memory and recollection that suggested women's abilities were either equal or superior to those of men thus strengthened the position of female students and academics in psychology. Such studies also supported more equitable evaluations of female testimony in legal contexts.

An example of research on gender that combined the two psychological interests of testimony and education is Cephas Guillet's 1917 "A Study of the Memory of Young Women," published in *The Journal of Educational Psychology*. Unlike other studies of the time, it did not compare male and female memory, instead focusing solely on female mental abilities. Guillet used psychology students at the State Normal School in Massachusetts to collect his data. The experiment was conducted on two separate year groups, firstly in 1915 on 82 women, and then in 1916 on 87 women.<sup>67</sup> It investigated women's ability to recollect various series of numbers, nonsense syllables, unrelated words, related words, related sentences and continuous prose, a method similar to Ebbinghaus' study of memory in 1885.<sup>68</sup> For example, one of the series of unrelated words the subjects were asked to remember in 1915 was: air, when, up, asleep, past, canned, fray, cast, scat, and mere.<sup>69</sup> The series was read to the class twice, with a period of two days in between the readings, and then after a further

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<sup>67</sup> Cephas Guillet, "A Study of the Memory of Young Women," *The Journal of Educational Psychology* 8 (1917): 65.

<sup>68</sup> Guillet, "A Study of the Memory of Young Women," 65; Ebbinghaus, "Memory," 155–156.

<sup>69</sup> Guillet, "A Study of the Memory of Young Women," 66.

four to nine days the women were asked to write down what they could remember.

Guillet argued that the similarities between both year groups showed that abnormal participants had not skewed his data, and his study could therefore be representative of women in general. Guillet developed a points-based system of accuracy that exemplified his findings in statistical form, earning the 1915 class an average of 102.3 and the 1916 class an average of 102.14.<sup>70</sup> Guillet's article supported the idea that women could succeed in higher education, as he demonstrated that women's abilities to recall information were very competent.<sup>71</sup> Guillet also made a critical judgment about how education is measured, writing that his experiment showed that "there is more in our minds than we can bring to consciousness at will," and that the information that people forget can often be more informative and influential than what can be easily recollected.<sup>72</sup>

Two examples of earlier experiments using female psychology students are the Bolton and Gates experiments discussed below. Like Guillet, both scholars drew upon Ebbinghaus' methodology of having subjects recollect a string of words or sounds, however they used both male and female subjects and compared the data.<sup>73</sup> Their data interpretation drew upon the third methodological approach – claiming that neither gender was

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<sup>70</sup> Guillet, "A Study of the Memory of Young Women," 69.

<sup>71</sup> Ibid., 68–70.

<sup>72</sup> Ibid., 69.

<sup>73</sup> Bolton, "The Accuracy of Recollection and Observation," 286–95; Arthur I. Gates, "Experiments on the Relative Efficiency of Men and Women in Memory and Reasoning," *Psychological Review* 24 (1917): 139–46; Stern, "Abstracts of Lectures," 270–82; Ebbinghaus, "Memory," 155–56.

better overall, but that men and women had different areas they succeeded in, which corresponded to their social roles.

Bolton's "The Accuracy of Recollection and Observation" (1896) was the first English study to include and compare scientific data from adults of both sexes. In the article published by *Psychological Review*, Bolton responds to Cattell's 1895 article "Measurements of the Accuracy of Recollection", picking up one of his suggestions to compare results from two university classes.<sup>74</sup> Bolton analyses Cattell's data from male students collected at Columbia University alongside the recent experiment his colleague Joseph Jastrow had undertaken at the University of Wisconsin on both men and women. Jastrow's position on gender differences is well documented – he was outspoken in his support of biological, rather than societal causes for women's lack of historical achievements compared to men's.<sup>75</sup> Bolton was also more interested in the relevance of memory studies to education rather than law. He was the Dean of the College of Education at both the University of Iowa and the University of Washington and his analysis of the data from Cattell and Jastrow's experiments shows that his interest in the data was not legal but educational. He wished to understand differences in how men and women learn as well as the implications of such differences for women pursuing higher education.<sup>76</sup>

Jastrow and Cattell utilized a similar methodology: their subjects were all university students and Jastrow replicated the questions from Cattell's earlier experiment. Where their methodology differed was in relation to the

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<sup>74</sup> Sporer, "A Brief History," 326.

<sup>75</sup> Joseph Jastrow, "A Study in Mental Statistics," *New Review* 5 (1891): 568; Shields, "Functionalism, Darwinism, and the Psychology of Women," 747.

<sup>76</sup> Haines and Vaughan, 326.

demographic and number of subjects. Jastrow's experiment was conducted on a larger group, 92 students compared with Cattell's 56.<sup>77</sup> His subjects were also more diverse, consisting of 26 women, while Cattell's subjects were all male. Bolton's analysis of female data therefore draws solely from Jastrow's Washington experiment, which he compares with a combination of male data from both experiments, by selecting 26 men by lot from each.<sup>78</sup>

Bolton's comparison is detailed and nuanced; he does not make generalist statements about which sex is more adept at recalling information, instead he looks separately at each type of question and at participants' level of confidence in their answer. His analysis conforms to gendered social roles – women are more apt for observation, and men for “sturdier” quantitative thinking. For example, when analysing the data from observation-based questions, such as describing the previous week's weather, Bolton found that women's memory was significantly better than men's. Fourteen out of 26 gave “substantially” correct answers, whereas only five out of 26 men did so.<sup>79</sup> Women were also more confident about their answers than men.<sup>80</sup>

In other areas of memory, however, Bolton found that men produced more accurate information. Men answered more correctly to questions of ‘quantitative estimation’, a label used to collectivize the data from both dates and distance questions.<sup>81</sup> For example, when inquiring about the date of a historical event, such as the year of Victor Hugo's death, men gave more

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<sup>77</sup> Cattell, “Measurements of the Accuracy of Recollection,” 761; Bolton, “The Accuracy of Recollection and Observation,” 286.

<sup>78</sup> Bolton, “The Accuracy of Recollection and Observation,” 287.

<sup>79</sup> *Ibid.*

<sup>80</sup> *Ibid.*, 286, 287.

<sup>81</sup> *Ibid.*, 291.

accurate answers. The actual year of his death was 1885, men more closely guessed 1860 as the average answer, whereas women estimated a much earlier 1847.<sup>82</sup> Likewise, men were more accurate and had a smaller margin of error at answering questions of distance, compared with women.<sup>83</sup> Bolton also found that women were much less confident than men in answering quantitative questions, with only one woman out of the 26 feeling confident in her answer.<sup>84</sup>

Bolton's comparison of the two experiments showed that Cattell's findings were substantiated, and that memory in general was highly unreliable in matters of general interest. He did discuss discrepancies in the two sets of results, such as the data from the distance question. While Jastrow found that 30 per cent of men answered incorrectly, this number was halved in Cattell's research, with only 15 per cent of men giving incorrect answers.<sup>85</sup> Thus, there were subtle differences in the results of the two experiments, suggesting that more research was needed from which to draw more decisive conclusions. His analysis of gender and memory found that men and women were more accurate and confident in their answers for different areas of knowledge, mimicking Hall's understanding of gender difference – that women were better observers of their surroundings while men were more analytical.

More than twenty years after Bolton published his article, fellow American psychologist Gates published a similar study that reinforced

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<sup>82</sup> Bolton, "The Accuracy of Recollection and Observation," 288.

<sup>83</sup> *Ibid.*, 290.

<sup>84</sup> *Ibid.*, 291.

<sup>85</sup> *Ibid.*, 290.

Bolton's analysis of gendered intelligence.<sup>86</sup> Gates' data was recorded during three experiments undertaken on his University of California psychology students in 1913, 1914 and 1915. He writes that there was an existing consensus among psychologists that women had objectively better memories, but were "less efficient in applying the facts learned, in self-expression and in reasoning power" than men.<sup>87</sup> He supports this argument with his own research, writing that women showed superior memories by an average of 4.5 per cent, but that men were both more willing to answer questions involving reasoning and their answers were more accurate than those of their female counterparts.<sup>88</sup>

Gates asked two sets of questions to collect his data. In the first set students were asked to recollect information from the previous week's lecture, and in the second they were asked for a practical application of this information. His analysis of both questions showed that women were more accurate at recollecting facts, whereas men were better at applying the facts in a practical situation.<sup>89</sup> Gates hypothesized that the women's admission that they spent more time than men studying the course material could account for their superior results in remembering facts. To investigate further, he undertook another experiment that eliminated the time between exposure and recollection. He had the subjects read a news article about a fire in Boston that destroyed three houses, and then write down all the

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<sup>86</sup> Gates, "Experiments on the Relative Efficiency of Men and Women in Memory and Reasoning," 139.

<sup>87</sup> *Ibid.*

<sup>88</sup> *Ibid.*, 140, 141.

<sup>89</sup> *Ibid.*, 142.

details that they could remember.<sup>90</sup> Afterwards he then asked them ten questions, such as “When did the fire break out?” and “How many families were left homeless?” comparing the accuracy of the free written accounts with the answers to the direct questions, finding that there were negligible differences in the two forms of recollection.<sup>91</sup> From this information, he concluded that women had superior memories based on the sheer volume of information they were able to recollect, however men were superior based on the ratio of correct and falsified information, or accuracy.<sup>92</sup>

### **German Discourse on Gendered Memory and Perception**

During the twenty-year interval between the Bolton and Gates articles, most experimental studies that focussed on gender differences in memory and perception were published in Germany. American scholars were kept aware of these studies through G. M. Whipple’s summaries of new findings in the psychology of testimony, published in the *Psychological Bulletin*. His articles were aimed at informing fellow psychologists of the findings of new studies, rather than elaborating on the nuances in arguments or methodology that were typically included in full length articles on individual experiments. Due to this, there is little detail about the methodologies or arguments of these German experiments available in English, however it is still possible to ascertain general intellectual trends.

The numerous experiments Whipple discussed illustrate that there was an active dialogue in Germany over which gender was more accurate.

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<sup>90</sup> Gates, “Experiments on the Relative Efficiency of Men and Women in Memory and Reasoning,” 142.

<sup>91</sup> Ibid., 143.

<sup>92</sup> Ibid., 144.



This contrasted with American scholars' general lack of interest in, and agreement about, the causes of gender differences in eyewitness testimony. In this section on German scholars, the debate between Stern (who believed men were more accurate) and Borst and Wreschner, (who both published studies asserting the opposite) is examined first.<sup>93</sup> Second, the later published works of Vos and Schramm are outlined; both scholars likewise asserted opposing conclusions on the subject of gendered accuracy.

Because of the lack of detail in Whipple's summaries, it is not possible to determine if German psychologists who claimed men were better eyewitnesses referred to biological explanations of male superiority or gendered intelligence to justify their argument. Nor is it possible to determine how scholars who argued that women were better eyewitnesses justified their analyses. Nevertheless the dissent emerging in Germany on the depiction of men as more accurate eyewitnesses is important in and of itself because it shows that the dominant societal understanding of gender difference was not always reinforced by psychologists. The first person to reject this idea was Borst, a woman, and her study opened the way for other scholars to similarly reject the hitherto ubiquitous portrayal of men as more accurate.

Whipple wrote that Stern's experiments consistently showed men to be the more reliable sex, by between 20 to 33 per cent.<sup>94</sup> This pattern presented itself within a range of different experimental means – in both picture and event tests, when responding to questions or answering in

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<sup>93</sup> Whipple, "The Observer as Reporter," 162.

<sup>94</sup> Ibid.

narrative form, and in the presence and absence of taking an oath. Whipple also noted that Stern's experiments on children showed the same gender bias, with young boys giving more reliable testimony compared with young girls.<sup>95</sup> Both Borst (1904) and Wreschner (1905) challenged Stern's results with their own research, each claiming that women gave more accurate testimony than men.<sup>96</sup>

Whipple's inclusion of Borst's research was the only attempt made by an American scholar to include a woman's research in the discussion of gender reliability. Borst was a Swiss schoolteacher whose interest in the psychology of memory stemmed from her involvement in education, and as one of Stern's students, she shared his particular interest in children's mentality.<sup>97</sup> Although, as Whipple's article makes apparent, she did not share his belief that men were more accurate witnesses.<sup>98</sup>

Borst's 1904 experiment on gender and witness reliability found that women were more accurate and had a greater range of knowledge retention than men.<sup>99</sup> However, Whipple criticized her conclusions, claiming that women appear superior based on the quantity of correct answers, not on the percentage of correct answers. In fact, her results suggest that men, who submitted more limited reports, had a higher proportion of correct answers.<sup>100</sup> Regarding Wreschner's research, he writes simply that he found

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<sup>95</sup> Whipple, "The Observer as Reporter," 162.

<sup>96</sup> Ibid., 162, 169; the articles Whipple refers to as evidence of their position are; Marie Borst, "Recherches expécelles sur l'éducabilité et la fidélité du témoignage," *Archiv de Psych* 3 (1904): 233-314; A. Wreschner, "Zur Psychologie der Aussage," *Archiv für die Gesamte Psychologie* 1 (1905): 148-183.

<sup>97</sup> Sporer, "Lessons," 745.

<sup>98</sup> Whipple, "The Observer as Reporter," 162.

<sup>99</sup> Ibid.

<sup>100</sup> Ibid.

“that in adults women did better than men,” a finding that supports Borst’s earlier study.

Borst and Wreschner’s refutation of Stern’s work did not sway his confidence in his own findings. Over two decades later he published an English language summary of his work, where he reiterated his belief that men were more accurate eyewitnesses than women.<sup>101</sup> Girls, he claimed, were prone to hysteria in the “prephases and beginnings of puberty” where they would become unconsciously emotionally unbalanced and have overactive imaginations.<sup>102</sup> The girls who exhibited these symptoms could easily influence their peers through suggestion, and thus were dangerous not only in their own ability to mistake fact, but also in their ability to convince others of their belief.<sup>103</sup>

Whipple included two further examples of contradictory German-language studies on gender difference in his 1913 summary of recent findings in the psychology of testimony. In the first, Fritz Schramm compared the memory of 16 male and 16 female Freiburg University students.<sup>104</sup> He concluded that women were more accurate than men at remembering a story they had heard 24 hours previously, although in Whipple’s subsequent analysis of the results he argued that the difference was too slight to suggest a definitive pattern.<sup>105</sup>

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<sup>101</sup> As a lecture transcript, it has a broad scope that its lack of detail, specific cases, and footnotes demonstrates. Stern, “The Psychology of Testimony,” 3–20.

<sup>102</sup> Stern, “The Psychology of Testimony,” 9, 10.

<sup>103</sup> *Ibid.*, 10.

<sup>104</sup> Whipple, “Psychology of Testimony and Report,” (1913): 267.

<sup>105</sup> *Ibid.*

Vos utilized a similar methodology in his 1911 experiment, which comprised 800 girls and boys aged nine to fourteen years.<sup>106</sup> He read to them a story that consisted of forty different testable elements, and then analysed the data according to gender, also considering the influence of age and class. He found that boys were more accurate overall, although they were less likely to admit when they were unsure, and therefore gave a false answer over no answer. The age when accuracy was at its lowest was at thirteen years for boys, and at nine and twelve years for girls. He also identified a class pattern that transcended the gender divide, with children from wealthier families performing better than their lower class counterparts.<sup>107</sup> These two studies demonstrate the lack of psychological consensus about gender differences in witness reliability, with different studies claiming women or men to be more accurate in different areas of memory.

Cyril Burt predicted in 1911 that studies into sex differences would never produce clear generalizations. This was certainly the case with the psychology of testimony in the early twentieth century.<sup>108</sup> An examination of the scholarship on honesty, memory and suggestion during this time reveals that there was no consensus psychological understanding of the impact of gender on the accuracy of witness testimony. Instead, psychologists drew on three approaches when analysing gender. Firstly, they either ignored women and treated male subjects as the norm. Secondly, they drew upon social Darwinian explanations of male biological superiority. Finally, some

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<sup>106</sup> Whipple, "Psychology of Testimony and Report," (1913): 267.

<sup>107</sup> Ibid.

<sup>108</sup> Cyril Burt, "Experimental Tests of Higher Mental Processes and their Relation to General Intelligence," *British Journal of Psychology* 3 (1911): 18.

psychologists adhered to notions of an intrinsically masculine or feminine intelligence, claiming that men were more analytical, better at reasoning, and less suggestible, and that women embodied the perceived opposites of these traits.

The impact of gender on eyewitness reliability was a relatively under researched area of inquiry. This is perhaps why these approaches were used, all of which validate the understanding that men were better eyewitnesses. There were very few experiments conducted, especially on adults, where gender difference was the central focus of the inquiry. There was little motivation to explore and question a topic that appeared to have an existing experimental consensus that men were superior, especially one that benefitted male psychologists' own understanding of themselves as men in a patriarchal society. This master narrative was not challenged until the 1904 publication of Swiss schoolteacher Marie Borst's research, after which two German studies by Wreschner and Schramm also supported her assertion that women were more accurate. Unfortunately, little attention was given to their work, as it was overshadowed by the increasing interest in differences of age.

## Chapter 4: Disputes over Disciplinary Boundaries and Accord over Female Witnesses

A dynamic, public, and at times scathing debate between psychologists and jurists began during the late 1910s over professional authority and status. The central issue being disputed was the suitability of psychologists appearing as expert witnesses in courtrooms. The dialogue was a prominent media focus in America at the time, as it played out in popular magazines, specialist journals, newspapers, and in controversial legal cases. Subsequently, it has received significant historical analysis.<sup>1</sup> Hugo Münsterberg's sensationalist method of arguing for the inclusion of experimental findings as evidence, and the responses from jurists such as John Wigmore and Charles C. Moore, have been the main focus of historical analysis on the intersecting disciplines of psychology and law. Historians such as Winter, Golan, and Doyle have emphasized the disagreement over the right of psychologists to act as expert witnesses in court.<sup>2</sup> While this narrative explains how and why psychologists were excluded from giving expert testimony in American courtrooms, it neglects subtle ideological commonalities that psychologists and jurists shared on witness reliability.<sup>3</sup> This chapter aims to highlight one particular ideological convergence – the

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<sup>1</sup> Examples include; Benjamin, "Hugo Münsterberg's Attack," 414–425; Ellis S. Magner, "Wigmore Confronts Münsterberg: Present Relevance of a Classic Debate," *Sydney Law Review* 13 (1991): 121–137; Golan, *Laws of Men and Laws of Nature*, 211–253.

<sup>2</sup> Winter, *Memory*, 9–32; Golan, *Laws of Men and Laws of Nature*, 221–242; Doyle, *True Witness*, 9–34.

<sup>3</sup> Benjamin, "Hugo Münsterberg's Attack," 759; Bornstein and Penrod, "Hugo Who?," 760.

negative attitudes both Münsterberg and jurists expressed towards female witnesses.

This chapter begins by comparing the disciplinary tensions between psychology and law in the United States and Central Europe. In both locations, disagreement stemmed from contradictory views over which discipline had the more accurate method of analysing witness reliability in court. This section demonstrates that the abrasive methods Münsterberg used in America created a uniquely hostile relationship between the psychological and legal disciplines, as a more harmonious interdisciplinary dialogue existed outside of his influence in Central Europe.<sup>4</sup>

The next section looks at Münsterberg portrayal of female witnesses. It begins by analysing Münsterberg's research on the accuracy of estimation, which demonstrates his subscription to the 'no female subjects' approach that treated the male as the norm. Next, it looks at the two instances in *On The Witness Stand* that Münsterberg engages with gender difference – when discussing *déjà vu* and when summarising outside research on gender differences in memory. Then is discussed Münsterberg's only documented experimental study involving questions of gender, where he investigated differences in judgement accuracy and argued against the inclusion of women in juries.

The final section highlights the similarities between attitudes towards gender contained in experimental psychology's discourse and those Wigmore expressed. Looking at Hans Gross' work (discussed in Chapter One), as well as Wigmore's collected volume, it shows how, like the

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<sup>4</sup> Bartol and Bartol, "History of Forensic Psychology," 7.

psychological studies discussed in the previous chapter, jurists relied on popular concepts of gendered intelligence to justify institutionalizing gender prejudice against female witnesses in an ostensibly scientific age.

### **Münsterberg's Attack on the Legal Profession**

Apart from his attack on the legal system and his pro-German stance on the First World War, both of which led to public criticism, Münsterberg had a very successful career as one of the earliest experimental psychologists.<sup>5</sup> He learned the “new” experimental methodology from Wundt in the early 1880s, which had a strong emphasis on cognitive function and resulting focus on the normal healthy man as the subject.<sup>6</sup> Following the 1888 establishment of Münsterberg's own laboratory in Freiburg, he developed his own method that became known as the functionalist approach, as it involved contextualizing experimental data.<sup>7</sup> He incorporated comparative elements, as well as literary and historical considerations, thereby creating a more complex study of human mental life.<sup>8</sup> Doing so allowed his discussion to include the impact of environmental and biological factors on memory function. However, it attracted several criticisms, as many established practitioners or scholars of psychology remained loyal to Wundtian theory.<sup>9</sup> Edward Titchener, for example, argued

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<sup>5</sup> Bartol and Bartol, “History of Forensic Psychology,” 10.

<sup>6</sup> Schmidgen, “Münsterberg's Photoplays,” 1, 5; Winter, *Memory*, 15; Bornstein and Penrod, “Hugo Who?,” 761.

<sup>7</sup> Münsterberg, *On the Witness Stand*, 4.

<sup>8</sup> Schmidgen, “Münsterberg's Photoplays,” 5.

<sup>9</sup> Golan, *Laws of Men and Laws of Nature*, 222.



that Münsterberg's work was scientifically flawed because he relied overly on persuasive writing instead of experimental results.<sup>10</sup>

While Münsterberg's methodology was subject to opposition in his homeland, in the United States his ideas were welcomed.<sup>11</sup> He accepted an invitation from William James to lead the psychology laboratory at Harvard in 1892, where he remained until his death in 1916.<sup>12</sup> As such, his most significant advances were published in English-language periodicals and books and, in the field of forensic psychology, on American judicial systems.<sup>13</sup> He published articles in popular magazines such as *McClure's*, *Times*, *Readers'* and *Cosmopolitan* as opposed to scientific journals, earning himself a high public profile in the United States.<sup>14</sup> Indeed, as Doyle has written, Münsterberg's celebrity was such that had he lived in our times, he would "be on CNN every night—Larry King's best friend, Oprah's consultant on the psychology of every day life, Court TV's go-to-guy on the next 'trial of the century'."<sup>15</sup> He used this fame to repeatedly endorse the potential practical applications of his scientific research, most notably in the legal system.<sup>16</sup>

Münsterberg's experimental work and criticisms of the legal system were combined into a single volume in *On the Witness Stand*, published in 1908.<sup>17</sup> The book consisted primarily of previously circulated articles from magazines, and was published at a time when Münsterberg's fame was

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<sup>10</sup> Golan, *Laws of Men and Laws of Nature*, 222.

<sup>11</sup> Bornstein and Penrod, "Hugo Who?," 761; Golan, *Laws of Men and Laws of Nature*, 222.

<sup>12</sup> Bornstein and Penrod, "Hugo Who?," 761.

<sup>13</sup> Schmidgen, "Münsterberg's Photoplays," 12; Winter, *Memory*, 13.

<sup>14</sup> Hugo Münsterberg, "Yellow Psychology: Dr. Münsterberg replies to Mr Moore," *Law Notes* 11 (1907): 145.

<sup>15</sup> Doyle, *True Witness*, 17.

<sup>16</sup> Benjamin, "Hugo Münsterberg's Attack," 418.

<sup>17</sup> Sporer, "A Brief History," 329.

particularly pronounced. In the early twentieth century he had offered his “expert” opinion on two high profile cases: the Ivens case in 1906 and the trial of ‘Big Bill’ Hayward in 1907.<sup>18</sup> While Münsterberg was involved in both of these cases unofficially, his statements caused a media stir. In the former case, Richard Ivens had confessed to the murder of a young Chicago housewife.<sup>19</sup> Münsterberg publically claimed that the confession was falsely obtained through hypnosis and that the accused was innocent, despite never meeting Ivens or communicating with any of the officials involved in the case.<sup>20</sup> The media decried his interference, and his comments had no influence over the verdict, as Ivens was eventually hanged.<sup>21</sup>

The second case involved a confession from Harry Orchard, who had admitted to the murder of eighteen people, including the Governor of Idaho.<sup>22</sup> Orchard also alleged that he was hired to carry out the murders on behalf of four officials of the Western Federation of Miners, one of whom was William “Big Bill” Hayward.<sup>23</sup> Münsterberg travelled to Boise, where the trial was taking place, on request of the Idaho state government and conducted one-hundred psychological lie-detection tests on Orchard.<sup>24</sup> Through association tests, he concluded that Orchard’s confession was truthful, as he showed no signs of “emotional disturbance at the mention of significant words.”<sup>25</sup> On the train home he discussed his findings with a

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<sup>18</sup> Schmidgen, “Münsterberg’s Photoplays,” 10; Bornstein and Penrod, “Hugo Who?,” 764.

<sup>19</sup> Robert Kragon, “Expert Testimony in Historical Perspective,” *Law and Human Behaviour* 10 (1986): 24.

<sup>20</sup> Kragon, “Expert Testimony in Historical Perspective,” 24.

<sup>21</sup> Doyle, *True Witness*, 16.

<sup>22</sup> *Ibid.*

<sup>23</sup> Magner, “Wigmore Confronts Münsterberg,” 123.

<sup>24</sup> Doyle, *True Witness*, 16.

<sup>25</sup> Magner, “Wigmore Confronts Münsterberg,” 123–124.

reporter, and the story spread across the country, attracting media scrutiny and creating a scandal in which he was accused of being bribed.<sup>26</sup>

Despite his various contributions to psychological discourse, the aspect of Münsterberg's legacy that is most prevalent in contemporary historical accounts is his attack on the legal system. In Münsterberg's various magazine publications and his book, he accused jurists of negligence for not utilizing the experimental findings of witness testimony. He claimed that judges in several American cases had made rulings based on assumptions that contradicted experimental evidence.<sup>27</sup> These instances, he believed, demonstrated that judicial education and human reasoning alone were not sufficient in ensuring a correct verdict when doing so hinged on analysis of witness reliability. While a solely legal approach could be justified when psychology was based on "hazy and vague" philosophical musings, in light of experimental methods an interdisciplinary approach was "unavoidable."<sup>28</sup>

Due to the widespread public interest and the media attention surrounding his work, several jurists responded to Münsterberg's attack in similarly high profile ways. Charles C. Moore (1866–1958), a member of the Idaho State House of Representatives, published *Yellow Psychology* in response to one of Münsterberg's articles that would later be republished in *On the Witness Stand*.<sup>29</sup> Moore brought up several issues arising from Münsterberg's argument including: the relative insignificance of witness accounts in relation to other, less subjective forms of testimony; that the

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<sup>26</sup> Doyle, *True Witness*, 17.

<sup>27</sup> Hugo Münsterberg, *On the Witness Stand*, 19.

<sup>28</sup> *Ibid.*, 20.

<sup>29</sup> Magner, "Wigmore Confronts Münsterberg," 126.

outcome of court proceedings rarely, if ever, hinges on witness accuracy; and reasoning and judgement skills that judges hone every day in court are more valuable than the theoretical knowledge psychologists possess.<sup>30</sup> Münsterberg responded directly to Moore in the following month's issue of *Law Notes*, writing that he had received positive messages from other jurists, and to restate that the knowledge gained from performing "thousands and thousands of painstaking experiments on the most subtle points of mental life" was superior to any gained from common sense or deriving from human instinct.<sup>31</sup>

A more condemnatory legal response came after the publication of *On the Witness Stand* from Professor of Law at Northwestern University, John Henry Wigmore. Wigmore's article, "Professor Muensterberg and the Psychology of Testimony," was written in the form of a trial transcript where a "Professor Muensterberg" was accused of slandering the legal system.<sup>32</sup> He put forward arguments similar to Moore's – that psychology as a discipline was too infantile, that their experiments were generalized and the legal system made judgements on specific scenarios, and that the legal system's existing processes of evaluating witnesses were sufficient.<sup>33</sup> Unlike Münsterberg, Wigmore footnoted extensively and his bibliography included 127 psychological works in five different languages, demonstrating a thorough knowledge of psychological developments and in doing so

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<sup>30</sup> Moore, "Yellow Psychology," 440–444.

<sup>31</sup> Münsterberg, "Yellow Psychology," 145; Magner, "Wigmore Confronts Münsterberg," 126.

<sup>32</sup> Wigmore, "Professor Muensterberg," 399.

<sup>33</sup> *Ibid.*, 416–422.

disproving Münsterberg's claims of jurists' ignorance, at least in his own case.<sup>34</sup>

Münsterberg's belief in the need for psychologists to be called on as expert witnesses in court was not representative of the wider discipline. As Wigmore pointed out in 1909, and Mülberger a century later, European psychologists such as Stern, Löffler, and Freud were vocal about the immaturity of the discipline and the significant work that needed to be done before it would be suitable to apply experimental results in a practical context.<sup>35</sup> In 1906, writing only two years before the publication of Münsterberg's book, Stern claimed that;

It is not yet time to speak of the practical use of this method...thus far it has not passed beyond the laboratory stage. An extensive series of purely methodological work will be required before it can be thought of for application to the larger field of practice. Premature practical trials of a method while still imperfect are calculated merely to discredit it and to awaken prejudice against its further use.<sup>36</sup>

The same year, Vienna law professor Loeffler wrote; "before we dare to rely on it in a real criminal case, it must be first studied in thousands of laboratory experiments."<sup>37</sup> These examples, among others, demonstrate that Münsterberg's position on the immediate inclusion of psychological experts in court was one he championed singlehandedly.

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<sup>34</sup> Golan, *Laws of Men and Laws of Nature*, 237; Sporer, "Lessons," 747.

<sup>35</sup> Wigmore, "Professor Muensterberg and the Psychology of Testimony," 412–416.

<sup>36</sup> Stern, quoted in: Wigmore, "Professor Muensterberg and the Psychology of Testimony," 414.

<sup>37</sup> Loeffler, quoted in: Wigmore, "Professor Muensterberg and the Psychology of Testimony," 413.

European psychologists' acknowledgement that their discipline needed more maturity before being applied to law was accompanied by a comparatively more harmonious intellectual exchange between jurists and psychologists. Like their American counterparts, European, and specifically German, jurists were protective of their right to assess witness reliability without a psychological expert.<sup>38</sup> However, without Münsterberg's particularly abrasive rhetoric that characterized the dialogue between jurists and psychologists in America, these tensions were less pronounced. Several scholars such as Marbe and Stern were able to give expert testimony on witness reliability in German courts during the 1910s.<sup>39</sup> The utilization of these psychologists' knowledge in a legal context also indicates that Münsterberg, despite overselling his position, had a point. Psychologists did possess scientific, if not somewhat flawed, knowledge, which in certain cases could be incorporated with judicial judgements to help secure a verdict.

An example of collaboration between law and psychology in a German academic context is that of Franz von Liszt, a professor of law who shaped the German Penal Reform movement beginning in 1882.<sup>40</sup> His interest in empirical research, while originating in a criminological context, spread to psychological methods of understanding witness deficiencies.<sup>41</sup> After a recommendation from Stern, he conducted the first event-experiment in his law seminars in 1901 and 1902, adapting the earlier picture-test

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<sup>38</sup> Mülberger, "Teaching Psychology to Jurists," 67; Bartol and Bartol, "History of Forensic Psychology," 8.

<sup>39</sup> Mülberger, "Teaching Psychology to Jurists," 67; Wolffram, "'God Save Us From Psychologists As Expert Witnesses,'" 344.

<sup>40</sup> Mülberger, "Teaching Psychology to Jurists," 62.

<sup>41</sup> Ibid., 63.

experiments to become more relevant to a legal context.<sup>42</sup> The gender dimension of this experiment was not alluded to, presumably because all of his students were male.

Liszt's support of Stern and Lipmann was instrumental in helping them exert their expertise over jurists and psychiatrists who were competing for similar opportunities to give expert testimony in court.<sup>43</sup> As Mülberger noted, it was personal networking that ensured German psychologists were given opportunities within the legal system to apply their research, thereby proving the relevance of their research to a practical context and aiding their disciplinary survival.<sup>44</sup> No such bridge existed between psychologists and jurists in America. While Wigmore conducted his own reality-experiment based on von Liszt's method in a lecture at Northwestern University Law School in 1905, American psychologists paid this work no attention.<sup>45</sup> Outside of this instance, there was little intellectual exchange between the two disciplines, and while lawyers were aware of psychological findings, they were sceptical about the applicability of general data to specific scenarios, and thus were cautious about over emphasizing experimental psychology's significance within their own discipline.<sup>46</sup>

Greater intellectual exchange between law and psychology in Europe is further demonstrated in the work of British civil servant G. F. Arnold. Utilizing his experience as a judge in Colonial India, Arnold published *Psychology Applied to Legal Evidence* in which he advocates the use of

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<sup>42</sup> Stern, "The Psychology of Testimony," 10, 11; Wolffram, "'God Save Us From Psychologists as Expert Witnesses,'" 342.

<sup>43</sup> Wolffram, "'God Save Us From Psychologists As Expert Witnesses,'" 342.

<sup>44</sup> Mülberger, "Teaching Psychology to Jurists," 80.

<sup>45</sup> D. S. Greer, "Anything But the Truth?," 134.

<sup>46</sup> Sporer, "A Brief History," 333.

psychology in law.<sup>47</sup> He criticized his own discipline, claiming that lawyers are too “one-sided and narrow.” and that they needed to be more accepting of change, and particularly of new psychological findings.<sup>48</sup> He described the present state of the legal profession as “a water-tight compartment cut off from all connection with the streams of knowledge outside it.”<sup>49</sup> His analysis of the psychology of the witness relies mostly on theoretical or philosophical psychology, as at this time few German texts offering scientific evidence were translated into English, a drawback he acknowledges.<sup>50</sup> Arnold’s text embraces the precision experimental psychology could offer the legal system, agreeing with Münsterberg in this respect but taking a very different approach, one that was congruent with the legal system and was put forward in an academic, not public, context.

In sum, the media and public attention focussed on the application of psychology to law in the United States during the 1910s was a phenomenon unique to the North American context and was brought about through Münsterberg’s campaign. To those at the time with knowledge of psychological developments in Central Europe, Münsterberg’s campaign for psychology’s inclusion in law was without merit. While his argument that psychological experts should give testimony in court was not completely farfetched considering that in certain legal cases psychologists were called upon to give specific evidence, it was however, premature. The body of proven knowledge available at the time could not substantiate Münsterberg’s claims, and his belief that jurists were ignorant of the

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<sup>47</sup> Arnold, *Psychology Applied to Legal Evidence*, 2–4.

<sup>48</sup> *Ibid.*, 7–9.

<sup>49</sup> *Ibid.*, 452.

<sup>50</sup> Bornstein and Penrod, “Hugo Who?,” 762.



discipline was simply untrue.<sup>51</sup> The platform that he used to argue his case – popular magazines, a best-selling book, and contentious involvement in famous legal cases – shrouded his beliefs in a media frenzy that caused the public to believe his perspective was more urgent and valid than it was in reality.<sup>52</sup>

### **Münsterberg's Portrayal of Female Witnesses**

While the disciplines of law and psychology at the time disagreed about the appropriateness of psychological evidence in court, the two disciplines converged ideologically regarding their evaluation of women. The last part of the chapter outlines how Gross, Arthur C. Train (1875–1945), and Moore's legal texts mimicked the psychological work being published at the same time in that they valued men's testimony over that of women. These three scholars present an explanation for gender differences that mimics the explanation psychologists offered. Namely, scholars from both disciplines justified their prejudices using concepts of gendered intelligence and biological difference. These explanations exist in both philosophical and scientific contexts, suggesting that the introduction of the experimental method did little to challenge existing prejudices against women.

As criminals, both Ivens and Orchard differed significantly from the subjects Münsterberg customarily included in his experiments on witness reliability.<sup>53</sup> Münsterberg's experimental subjects were his psychology

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<sup>51</sup> Mülberger, "Teaching Psychology to Jurists," 75.

<sup>52</sup> Bornstein and Penrod, "Hugo Who?," 764.

<sup>53</sup> Additionally, Ivens was described as 'slow-witted' (and thus more easily influenced by suggestion than a "normal" man), and both men were relatively uneducated and from lower

students – youthful, educated and from middle or upper class families. They were usually male, however he also experimented on Radcliffe students, the female college affiliated with Harvard.<sup>54</sup> Not only were his subjects' intelligence and education an advantage as witnesses, but also the experimental procedure Münsterberg used was aimed at collecting results that represented the most able, not the average, witness. Subjects were aware of the experiment's purpose, had a sound understanding of human memory function, and were given generous time to complete the experiment.<sup>55</sup> Münsterberg believed that the results of an experiment conducted in a context so clearly conducive to accuracy would show how someone even in the best circumstances was subject to serious mental flaws and omissions.

Münsterberg's *On the Witness Stand* includes in-depth discussion of his methods and results of experiments on witness accuracy. This can be illustrated by three of Münsterberg's experiments on the accuracy of human estimation, which involved, estimating the number of objects, the length of time and the speed of an object.<sup>56</sup> The purpose of these experiments was to demonstrate the fallibility of estimation even without considering how such information could be falsely recollected in hindsight. Münsterberg asked each question twice, changing the variables each time to see if the results remained consistent. Several hundred of his male students, aged between 20

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class backgrounds; Kragon, "Expert Testimony in Historical Perspective," 24; Doyle, *True Witness*, 16.

<sup>54</sup> Münsterberg, *On The Witness Stand*, 29; Hugo Münsterberg, "The Mind of the Juryman," in *Psychology and Social Sanity* (New York: Doubleday, Page & Company, 1914), 181–202. Radcliffe was at the time a female-only liberal arts college, but became fully integrated into Harvard by 1999.

<sup>55</sup> Münsterberg, *On The Witness Stand*, 21.

<sup>56</sup> *Ibid.*, 21–23.

and 23 years old, participated in this experiment held during the winter of 1906/1907.<sup>57</sup>

Firstly, Münsterberg asked the students to estimate the number of black squares. He used two sheets of cardboard, one with fifty black squares and the other with twenty, showing these to the students for five seconds each, after which they would write down how many squares they believed were on each sheet.<sup>58</sup> The results showed that there was no correlation between the accuracy of estimation and the number of squares, and that accuracy in both cases was rare. There was an extreme range of answers, with some men estimating up to eight times more black squares than others.<sup>59</sup>

Next, Münsterberg asked his subjects to identify the number of seconds between two clicks to explore the accuracy with which people were able to estimate time. He asked the question twice, leaving ten seconds between the first two clicks and only three seconds in the next.<sup>60</sup> Again, there was a large range of answers, but the range was less in the three-second experiment compared with the ten second, suggesting that the longer the initial period of time, the more inaccurate people were at estimating its length.<sup>61</sup> Münsterberg emphasises that his subjects were aware of the purpose of the experiment and what they would be required to do before it had begun.<sup>62</sup> Without this advantage in a real life scenario, he writes, the variation of answers would be much greater. Thus a district

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<sup>57</sup> Münsterberg, *On the Witness Stand*, 20.

<sup>58</sup> *Ibid.*, 21.

<sup>59</sup> *Ibid.*, 22.

<sup>60</sup> *Ibid.*

<sup>61</sup> *Ibid.*

<sup>62</sup> Münsterberg, *On the Witness Stand*, 22.

attorney should consider the testimony of a cabman, for example, on the length of time between a cry and a gunshot to be wholly unreliable.<sup>63</sup>

For the third question, that of speed, Münsterberg showed his class a clock where one of the hands was an arrow, and asked them to estimate the speed that it moved.<sup>64</sup> The students were given one minute to observe, and were told to answer either using comparison to other moving objects, or in a quantitative measurement.<sup>65</sup> Both kinds of answers exhibited a great range, for example, the comparisons included answers such as the speed of a 'goldfish in water,' and the 'fastest automobile speed,' and answers in figures included seven miles an hour and forty miles an hour.<sup>66</sup>

Other kinds of experiments outlined in *On the Witness Stand* include asking students to describe sounds, interpret abstract images, describe the size of the full moon, and to determine the difference in darkness between two squares.<sup>67</sup> Münsterberg used these experiments, along with the three discussed above, to demonstrate the diversity of answers people produce when confronted with the same material for the same amount of time. He hoped that his findings would be of use to the legal system, with judges and juries having access to specific data about the diversity of perception, and that this information would increase judges' scepticism of testimony involving specific quantities. While judges had existing knowledge of testimony reliability based on their previous experience, Münsterberg felt that science could "clear up the chaos and confusion," that resulted from

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<sup>63</sup> Ibid., 22–23.

<sup>64</sup> Ibid., 23.

<sup>65</sup> Ibid.

<sup>66</sup> Ibid., 24.

<sup>67</sup> Ibid., 24–31.

testimony that conflicted with material evidence or other witness accounts.<sup>68</sup> Despite his strong stance on psychology's applicability in court, Münsterberg did not tailor his own experiments to replicate real life circumstances. He did not explore the impact of time on memory, instead requiring his students to answer questions directly after being exposed to the materials. Münsterberg's work's artificiality was another factor that prevented his giving expert testimony on witness accuracy in court.

*On the Witness Stand* for the most part ignores gender difference, addressing it only twice. The first instance draws upon psychology's older philosophical tradition.<sup>69</sup> In the chapter titled *The Memory of the Witness*, Münsterberg refers to *déjà vu* as a mental process women experience much more frequently than men. Instead of substantiating this claim with quantitative evidence, he appeals to the reader's own experience, writing that "many of us remember" experiencing *déjà vu*, and therefore must be aware that it occurs more frequently for women.<sup>70</sup> This claim has no scientific basis, but its inclusion is a nod towards psychology's non-scientific origins that perceived common understandings as biological facts. It also demonstrates a certain sense of trust in societal conceptions as reliable evidence of gender difference, which is an interesting contradiction considering Münsterberg was such a strong advocate for experimental psychology.

In the only other instance where gender is discussed, Münsterberg outlines the findings of recently published scholarship. He never refers to

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<sup>68</sup> Münsterberg, *On the Witness Stand*, 33.

<sup>69</sup> *Ibid.*, 57.

<sup>70</sup> *Ibid.*

experiments' dates or cites other psychologists, instead using generic phrases such as "some experiments" or "a well-known psychologist," making it difficult to assess the evidence for his claims.<sup>71</sup> Münsterberg reiterates the argument put forward in Chapter Three, that no disciplinary consensus existed on the subject of whether women or men made the better witnesses. He added that despite the present disagreement among scholars, he believed that a consensus would eventually emerge. A majority of the studies, he explained, noted a "very considerable" difference in the accuracy of their reports, with only a small number suggesting that gender is inconsequential.<sup>72</sup> He skimmed over the topic without outlining specific studies where one or the other gender was favoured, instead moving on to discuss gender difference in children, where he claimed a similar lack of consensus existed.<sup>73</sup>

Despite Münsterberg not directly experimenting with gendered differences in witness reliability, he did compare men's and women's competence as jurors. In 1913, he conducted two experiments, the first on eighteen male Harvard students, and the second on female Radcliffe psychology students.<sup>74</sup> Münsterberg wrote that gender comparison was not the main purpose for undertaking the later female experiment, but that it was simply to gain "ampler material" to ensure more accurate results.<sup>75</sup> He goes to pains to prove his experiment was not biased towards the women, writing that he "had no prejudice in favour of or against women as members

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<sup>71</sup> Münsterberg, *On the Witness Stand*, 54.

<sup>72</sup> *Ibid.*

<sup>73</sup> *Ibid.*

<sup>74</sup> Bartol and Bartol, "History of Forensic Psychology," 10. The experiment was first published in 1913, the discussion used by the author is the 1914 version.

<sup>75</sup> Münsterberg, "Mind of the Jurymen," 195.

of the jury,” and that women were given “exactly the same opportunities” as the men throughout.<sup>76</sup> The experiments simplified the act of judging and deliberating, and were based on the assumption that mental function remained the same whether confronted with an intricate or a trivial scenario.<sup>77</sup> Students were shown two dark grey cards, each with a different number of white spots, and were asked to estimate which one had the greater number.<sup>78</sup> Afterwards, the subjects discussed their answers together and were allowed to revise their own.<sup>79</sup>

The results of the initial answers on which paper had more dots showed that 52 per cent of male votes were correct, compared with only 45 per cent of female votes. Münsterberg accepts that the men may have been at an advantage in this section of the experiment, as they were more trained in scientific judgements.<sup>80</sup> Considering the relative proximity of the two percentages, he concluded that “men and women showed an equal ability in immediate judgment.”<sup>81</sup> This suggests that women and men were equally competent at perception, observation, and estimation, thus were equally reliable eyewitnesses in these respects. Münsterberg, however, did not emphasize this aspect of the experiment, and indeed the gender equality it suggested provoked no discussion within the discipline, as his subsequent discussion on judgement, where he made several controversial remarks, likely overshadowed it.

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<sup>76</sup> Ibid., 195, 196.

<sup>77</sup> Ibid., 189.

<sup>78</sup> Ibid.

<sup>79</sup> Whipple, “The Psychology of Testimony and Report,” (1914): 249.

<sup>80</sup> Münsterberg, “Mind of the Juryman,” 196.

<sup>81</sup> Ibid., 196.

Münsterberg found that after the group discussion, where the subjects were allowed to deliberate and alter their initial answer, the results demonstrated a decisive gender difference in favour of the men. The accuracy of male judgements increased from 52 to 78 per cent.<sup>82</sup> Whereas the female data showed no increase at all in accuracy, remaining at 45 per cent, and suggesting that “they had not learned anything from discussion”.<sup>83</sup> While some women had changed their initial response, not enough did so to positively affect the group’s accuracy as a whole.<sup>84</sup> Women are described as being mentally stubborn, unable to profit from discussion, and loyal to their instincts, traits that Münsterberg explains by referencing their aptitude for their societal role (presumably as mothers).<sup>85</sup> He operates on the assumption that minds function in accordance with a gendered perspective over any other influence – that an individual will always have either a male or a female mind. While he stops short of declaring either of these kinds “better,” he concludes that for the state of deliberating in a jury, women were unfit.<sup>86</sup> He wrote; “the psychologist has every reason to be satisfied with the jury system as long as women are kept out of it.”<sup>87</sup>

The gender prejudice evident in Münsterberg’s work can therefore be seen to replicate wider trends in the psychological discipline. For the most part, he ignored women, choosing to include only male data from his students. This decision is not insignificant given that he was arguably the

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<sup>82</sup> Münsterberg, “Mind of the Juryman,” 196.

<sup>83</sup> *Ibid.*, 197.

<sup>84</sup> *Ibid.*; 19 per cent of women changed their answer, compared with 40 per cent of men.

<sup>85</sup> *Ibid.*, 198.

<sup>86</sup> *Ibid.*

<sup>87</sup> *Ibid.*, 202.



most prolific and well-known psychologist in America in his time.<sup>88</sup> By referring to witnesses or experimental subjects with the default pronoun “he,” Münsterberg’s work reflects the common attitude towards women in science, namely that the male represented the norm and understanding normal behaviour thus required only male subjects.

Additionally, when he discusses gender in relation to *déjà vu*, he uses common societal attitudes in direct contradiction of his own belief the importance of experimental evidence. This is a surprising inclusion in the work of a psychologist who frequently cited the value of science over experience, particularly considering the strong way that he expressed this opinion within a legal context. Münsterberg’s argument against women serving in juries was likewise wrought with methodological inconsistencies. His evaluation of the scientific data clearly demonstrates a personal prejudice, as he ignores the significance of the findings from the first part of the experiment, which demonstrate that men and women had equal capacity to perceive, observe, and estimate correctly. Instead, he focuses on the data that reinforced societal expectations of women as being less mentally capable.

### **Juridical Understandings of Female Witnesses**

Juridical understandings of female witnesses mirrored Münsterberg’s approach. Gross, Train, and Moore likewise used concepts of gendered intelligence and biological difference to justify their belief that men were more reliable witnesses than women. Gross, discussed in Chapter One,

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<sup>88</sup> M. Hale, *Human Science and Social Order: Hugo Münsterberg and the Origins of Applied Psychology* (Philadelphia: Temple University Press, 2010), 765.

illustrates this with his view that men and women had entirely different views of the world. Gross believed that only people from the same gender could ever truly understand each other because accurate communication relies on the two parties having a similar frame of reference, and men's and women's frames are entirely oppositional. He based his distrust of female witnesses on this premise – arguing that they were inherently unreliable because a male investigator, judge or juryman would always misinterpret their accounts.

Gross also believed that women were more dishonest than men. He claimed that societal factors conditioned adult women to lie, and younger girls lied pathologically out of boredom and for their own entertainment. Gross' *Criminal Psychology* received academic validation from both the psychological and legal disciplines in America with Jastrow and Wigmore writing introductions to separate editions of his book.<sup>89</sup> While Gross based his gender difference statements on experience, not science, he used the same explanation – that men and women's minds were different and thus reflected their different value as witnesses.

Arnold also shared Gross' belief that common understanding is vital to accurate witness evaluation. While his research is heavily focussed on cultural and racial differences, he does draw a parallel between the "lesser" status of women and that of people of colour.<sup>90</sup> Thus, much of his discussion on foreigners can be seen as analogous to how women are treated in Western legal systems. Like Gross, he depicts the "other" – either women or

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<sup>89</sup> Gross, *Criminal Psychology*, 1911.

<sup>90</sup> Arnold, *Psychology Applied to Legal Evidence*, 137.

foreigners –as untrustworthy, unreadable, and thus unreliable, because there is no common thread of understanding that exists between the investigator and the subject.<sup>91</sup>

In 1913, Wigmore published *The Principles of Judicial Proof*, a collection of excerpts from criminological publications that he believed were relevant to jurists. Two of these articles; Train’s “The Prisoner at the Bar” and Moore’s “A Treatise on Facts, or the Weight and Value of Evidence” include discussion of the value of women as witnesses that drew upon concepts of gendered intelligence. In “The Prisoner at the Bar,” American lawyer Train writes that “men, it is commonly declared, rely upon their powers of reason; women upon their intuition”.<sup>92</sup> Additionally, he discusses how female witnesses are disadvantaged in court from the outset as the male form of intelligence – reasoning – is the only form of intelligence valued by the legal system.<sup>93</sup>

Moore’s “A Treatise on Facts, or the Weight and Value of Evidence” likewise uses common understandings of gendered intelligence by referring to several notable thinkers such as William James, Arthur Schopenhauer, and Chancellor Zabriske. He writes that women are more attentive, listen to gossip and are observant, and therefore their testimony would be more reliable when relating information derived from these skills.<sup>94</sup> Moore regards women as being cunning and naturally deceitful because they

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<sup>91</sup> Arnold, *Psychology Applied to Legal Evidence*, 435.

<sup>92</sup> Arthur C. Train, “The Prisoner at the Bar,” in *The Principles of Judicial Proof as given by Logic, Psychology, and General Experience, and Illustrated in Judicial Trials*, ed. John Wigmore, (Boston: Little, Brown and Company, 1913), 345.

<sup>93</sup> Train, “The Prisoner at the Bar,” 345.

<sup>94</sup> Charles C. Moore, “A Treatise of Facts, or the Weight and Value of Evidence,” in *The Principles of Judicial Proof as given by Logic, Psychology, and General Experience, and Illustrated in Judicial Trials*, ed. John Wigmore (Boston: Little, Brown and Company): 1913, 349.

needed to rely on their wits rather than physical strength to better men.<sup>95</sup>

Weak and ignorant men are described like women in this respect, as being unable to better an opponent without resorting to lying. Schopenhauer goes as far as to question whether women should be required to take an oath before giving testimony at all, because of its apparent redundancy.<sup>96</sup>

In conclusion, gender difference in witness accuracy was not an area of high academic or public interest at the turn of the century. Instead, Münsterberg's attempts to assert authority over the evaluation of witness reliability in American courts garnered significant attention, and has subsequently received large amounts of historical analysis. This chapter aimed to interpret both Münsterberg as a scholar and his dispute with the legal discipline through a gendered perspective. It argued that like many of his contemporaries, Münsterberg ignored gender in his experiments on witness reliability, considering it scientifically accurate to treat men as representative of the human norm. It also showed that this bias manifested itself in an openly sexist way in his experiment on judgement accuracy, where he contrastingly argued for and against equal gendered ability by claiming women and men were equally competent at perceiving, but that men were much superior at deliberation. Next, this chapter showed that Münsterberg's stance on using psychologists as experts on witnesses was not representative of his discipline, particularly in Central Europe, where psychologists uniformly acknowledged that systematic incorporation of their findings into law would be premature. Finally, it argued that regardless

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<sup>95</sup> Charles C. Moore, "A Treatise of Facts, or the Weight and Value of Evidence," 349.

<sup>96</sup> Ibid.

of the divide between Münsterberg's beliefs and those legal discipline regarding psychological experts, neither outcome would have affected the treatment of female witnesses in court, as both disciplines' academic texts subordinated women's accounts to those of men.

## **Chapter 5: Female Psychological Perspectives of Gendered Reliability**

The foundation of psychology's belief in male witness superiority was the idea that gender differences were innate, an assumption that was challenged by women as they began to participate in the discipline. Direct female contributions to the psychology of testimony were very minimal, as the only time a woman's research was acknowledged in the debate on gendered reliability was Swiss schoolteacher Marie Borst's study, discussed in Chapter Three. Nevertheless, women in other related sub-disciplines, such as the psychology of education, explored areas of mental life, such as memory and intelligence, which were similar to the interests of witness psychology. In their studies, women disputed existing biases against female intelligence, specifically women's perceived inferior memory. They did so by asserting that gender differences were environmental and not biological. Thus, if the work of female psychologists working on gender differences had been acknowledged, it would have offered convincing evidence against the dominant "male-superiority" narrative of witness reliability.

Women were involved in experimental psychology from its inception at the end of the nineteenth century, but were vastly underrepresented, constituting only 12% of professional psychologists in 1906.<sup>1</sup> They were demographically similar to their male counterparts, being mostly white

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<sup>1</sup> Furumoto and Scarborough, "Placing Women," 36.

Protestants from middle class backgrounds.<sup>2</sup> Women outside this privileged class and race demographic encountered more drastic barriers to their academic success, as the support of family, and particularly a male head of household, was often vital in securing a university education. Female psychological interests also demonstrated a similar diversity to those of men, with women not being concentrated in one area of research, instead being spread across a variety, ranging from metaphysics, muscular memory and visual illusions.<sup>3</sup> Underrepresentation of women and the diversity of areas they contributed to meant that women's direct contributions to the psychology of testimony were minimal.

The first half of this chapter discusses the difficulties that arose for women as a result of being a minority within their discipline, which explain why their primary area of interest was education. Biological explanations of gender differences were foundational both to arguments against women pursuing higher education, as well as psychological explanations of women's inferiority as witnesses. Therefore, female scholars who pursued research into the origin of gender differences as a way of validating their own positions as academics ended up refuting the central argument male psychologists used to validate their biased interpretation of data on witness reliability.<sup>4</sup>

The second half of this chapter focuses on specific debates where female psychologists disputed their male colleagues' understanding of gender difference. First discussed is the debate relating to word originality

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<sup>2</sup> Furumoto and Scarborough, "Placing Women," 38.

<sup>3</sup> Ibid., 36.

<sup>4</sup> Rutherford and Granek, "Emergence and Development of the Psychology of Women," 20.

between Jastrow, Nevers, Calkins, and Tanner. Next, it turns to the debate on mental variability and gender and the contributions made by Hollingworth and Woolley.

Despite their significant contributions to psychological understandings of gender difference, female scholars were largely written out of histories of psychology during and before the 1970s.<sup>5</sup> It was only after the rise in feminist and women's histories that women's portrayal in and contributions to psychological research were considered in historical perspective.<sup>6</sup>

Victoria Schuck and Stephanie Shield's 1970s scholarship was foundational to revisionist studies, with both women highlighting the erasure of female perspectives and the underlying prejudices that dominated psychological understandings of gender differences.<sup>7</sup> Their scholarship created the opportunity for wider historical consideration of the relationship between womanhood and psychology from the 1980s. Research into female contributions to psychological discourses, and their experience as scholars in this context, has enriched our understanding of how prejudiced understandings of women in psychology were challenged.<sup>8</sup> For example, historian Henry L. Minton argued in 2000 that the contributions of female scholars at the turn of the previous century were vital to the development of a more equal gender perspective in psychology than that which had existed

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<sup>5</sup> Furumoto and Scarborough, "Placing Women," 35.

<sup>6</sup> Ibid., 35–42.

<sup>7</sup> Schuck, "Sexism and Scholarship," 563–585; Shields, "Passionate Men, Emotional Women," 739–755.

<sup>8</sup> Laurel Furumoto, "Mary Whiton Calkins (1863–1930)," *Psychology of Women Quarterly* 5 (1980): 55–68; Furumoto and Scarborough, "Placing Women," 35–42.



previously.<sup>9</sup> This chapter aims to contribute to this body of work by reinstating women into history of forensic psychology.

### **Challenges to Women's Higher Education and Academic Careers**

The way in which emotions and their regulation were conceptualised in nineteenth-century patriarchal Western societies was a powerful method of maintaining and legitimising power distinctions. As Shields noted in 2007, the creation of complementary emotional traits and abilities for the sexes was a powerful tool for subordinating nineteenth-century women. These identities were conceptualized according to a philosophical framework that drew on common understandings of what a woman or a man *should* be, and reflect not only general societal attitudes but also the opinions of scholars expressed using scientific rhetoric.<sup>10</sup> This can be witnessed in psychology's justification of women being poor eyewitnesses. For example, feminine traits were determined by widespread inaccuracies about their biology.<sup>11</sup>

It was believed, for example, that blood was diverted from the brain to the uterus in order to sustain fertility, and that therefore female brains were less developed than male brains, which received full blood flow.<sup>12</sup> As such, women's higher mental processes such as rationality were underdeveloped, and their lower mental processes, notably emotion, were dominant. Thus women were more led by emotion than reason, making them unreliable. An ideal image of women was constructed around this understanding, with ideal behaviour including being demure, soft-spoken, obedient and

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<sup>9</sup> Minton, "Psychology and Gender," 613.

<sup>10</sup> Shields, "Passionate Men, Emotional Women," 94, 95.

<sup>11</sup> *Ibid.*, 96.

<sup>12</sup> *Ibid.*

maternal. Men, on the other hand, possessed corresponding traits that compensated for the weaknesses of women and balanced their strengths.<sup>13</sup> Male emotion was passionate and facilitated creativity and achievement, balancing female emotion that was unstable and sensitive.<sup>14</sup>

One consequence of this emotional framework was the belief that women should not gain a university education because it was biologically determined that they were less likely to succeed intellectually than men. At the turn of the century, women trying to further their education faced opposition from the mostly male educated establishment, who subscribed to this view. It was believed that the level of intellectual energy required to study at university would be too rigorous and either take a toll on women's general health or have a detrimental effect on their reproductive organs.<sup>15</sup> This approach is exemplified by G. Stanley Hall, discussed in Chapter Three, who believed that women were less capable of succeeding in academia because biologically they were made for childbearing and not for intellectual pursuits.<sup>16</sup> Dr Edward Clarke of Harvard Medical School was another academic who disapproved of the higher education of women claiming that the work was "too arduous".<sup>17</sup>

Strict adherence to this conception of female biology was not uniform, as some male scholars acknowledged that women were biologically capable of producing work to the same standard as men. However, the idea that women should remain strictly as homemakers and not pursue a higher

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<sup>13</sup> Shields, "Passionate Men, Emotional Women," 94.

<sup>14</sup> *Ibid.*, 97.

<sup>15</sup> Furumoto and Scarborough, "Placing Women," 37.

<sup>16</sup> Goodchild, "G. Stanley Hall and an American Social Darwinist Pedagogy," 81.

<sup>17</sup> Schuck, "Sexism and Scholarship," 576.

education, permeated beyond biological reasons into social ones, with many people believing that allowing women to go to university would have dangerous societal consequences. Marriage and starting a family was often delayed or prevented while women studied, and discussion over the demographic and cultural impact this would have were prominent in debates around gender equality throughout the twentieth century and can still be seen today. Sociologist Collin Wells, for example, held this position. In 1909, he wrote that the gradually improving societal position women had gained over the preceding twenty years were a “natural and inevitable” consequence of social democracy.<sup>18</sup> However, even as a feminist sympathiser, Wells questioned the social repercussions of women moving their focus away from homemaking to personal education.<sup>19</sup> He cites marriage rates that show less than 50% of female college graduates would ever marry, compared with 90% of the general female population.<sup>20</sup> This difference, he wrote, demonstrated that education lowered the marriage rate, and that when women developed interests outside of motherhood they would be completely distracted from building a family and the birth rate would drop.

Describing female college graduates as “selfish” and neglecting their “obligations to the race” by not marrying and raising families, Wells demonstrates a common contradictory view held by many male scholars at the time – that women were competent scholars, but they should neglect these abilities in favour of motherhood for the sake of continuing societal

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<sup>18</sup> Wells, “Some Questions Concerning the Higher Education of Women,” 731.

<sup>19</sup> *Ibid.*, 738.

<sup>20</sup> *Ibid.*, 735.

norms.<sup>21</sup> Münsterberg also shared similar views on women entering higher education. While he believed that women should be able to, and were competent enough, to learn at university level, he wrote that women's self-assertion would be at the expense of their families; it would benefit only the women themselves while damaging the existing societal framework.<sup>22</sup> Therefore, while some male academics in psychology acknowledged women's abilities and their right to pursue higher education, there was also a fear of the repercussions for society when women's pursuits were not exclusively marriage and motherhood.<sup>23</sup>

Universities' male-only admittance policies were challenged during the latter half of the nineteenth century. Women seeking higher education faced strong resistance from these institutions, which valued tradition and the men who protected them. Several female-only institutions were established during the 1870s that offered women opportunities for pursuing higher education without having to first break down the gender barriers that existed at all-male universities, such as Smith College (1871) and Wellesley College (1875).<sup>24</sup> By 1890, there were twenty such institutions in the United States.<sup>25</sup> Another route created to offer women higher education was the opening of institutions for women that were affiliated with existing all-male Universities. This satiated the pressure to allow female admittance on such institutions as Harvard, which established Radcliffe in 1879, and Columbia

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<sup>21</sup> Wells, "Some Questions Concerning the Higher Education of Women," 735, 737.

<sup>22</sup> Ibid., 736.

<sup>23</sup> Ibid., 732

<sup>24</sup> Rossiter, *Women Scientists in America*, 10.

<sup>25</sup> Schuck, "Sexism and Scholarship," 575.

University, which formed Barnard College ten years later.<sup>26</sup> Women who did try to enrol or attend the same lectures as men encountered regular discrimination based on their gender, which included not being able to register officially, being separated from male students, and not receiving their qualification despite fulfilling the requirements.<sup>27</sup> These challenges were particularly pronounced for women studying experimental psychology, as science was considered a “masculine” discipline and was thus particularly hostile to women.<sup>28</sup> For these reasons, opportunities for women to contribute directly to the psychology of testimony remained limited throughout the entire period under discussion.

Calkins’ academic career is an excellent example of the social and bureaucratic challenges women faced pursuing psychology in America at the turn of the century. Calkins began her career in women only colleges – she completed her undergraduate study at Smith College and was offered a position in philosophy at Wellesley after a year abroad.<sup>29</sup> Her path to becoming a qualified experimental psychologist therefore began through an institution that was focussed on the education of women, where she was part of a community of tight-knit all female professoriate.<sup>30</sup> However, outside of this supportive environment, Calkins faced numerous challenges to gaining education and recognition from male institutions.

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<sup>26</sup> Rossiter, *Women Scientists in America*, 10.

<sup>27</sup> Minton, “Psychology and Gender,” 613.

<sup>28</sup> Rachel Malane, *Sex in Mind: The Gendered Mind and Brain in Nineteenth-Century Literature and Mental Sciences* (New York: Peter Lang, 2005), 50.

<sup>29</sup> Furumoto, “Mary Whiton Calkins,” 57.

<sup>30</sup> Phyllis A. Wentworth, “The Moral of Her Story: Exploring the Philosophical and Religious Commitments in Mary Whiton Calkins’ Self-Psychology,” *History of Psychology* 2 (1999): 119.

Calkins career as an experimental psychologist began after she was asked to teach the “new psychology” as part of her syllabus. She took a year off to study before teaching it to her students, but was only able to attend lectures at Harvard University after her father’s successful petitions.<sup>31</sup> Her admittance was approved on the condition that Calkins would attend on a casual basis and not as an official registered student.<sup>32</sup> In a brief autobiographical chapter, Calkins recalled that every other student dropped out of James’ seminar in the initial weeks, leaving her as his sole student.<sup>33</sup> Her year of learning also included private tutelage from Edmund Sanford at Clark University, from whom she learned experimental procedure.<sup>34</sup> After returning to Wellesley College and establishing a physiological psychology course, Calkins decided to further her studies under Hugo Münsterberg at his newly established laboratory at Harvard, again as an unregistered student.<sup>35</sup> Münsterberg described Calkins as “the strongest student of all who have worked in the laboratory in these three years,” and as “one of the strongest professors of psychology” in the United States.<sup>36</sup> She completed the requirements for a Ph.D. thesis at Harvard in 1895, although she was never granted the qualification because she was a woman, and the university did not find “adequate reason” for granting her doctorate. This was despite a 1927 petition sent to Harvard to request a formal

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<sup>31</sup> Furumoto, “Mary Whiton Calkins,” 58.

<sup>32</sup> Ibid., 59.

<sup>33</sup> Mary Whiton Calkins, “Mary Whiton Calkins,” in *History of Psychology in Autobiography* ed. Carl Allammore Murchison, vol. 1 (Worcester, Mass.: Clark University Press, 1930), 31.

<sup>34</sup> Calkins, “Mary Whiton Calkins,” 32.

<sup>35</sup> Furumoto, “Mary Whiton Calkins,” 61.

<sup>36</sup> Ibid., 61.

acknowledgement of her work, which was signed by thirteen noted academics, including Münsterberg.<sup>37</sup>

## **Female Contributions to the Psychological Study of Gendered Intelligence**

As women became more involved in American academia, their voices and perspectives contributed to psychological discourse, balancing the previous male bias. Interestingly, the two areas of the psychology of testimony that received the most contributions from female scholars were age and gender classifications. Female psychologists asserted the biological equality of male and female brains, arguing that differences in memory were due to environmental factors and not because women were mentally inferior. They also attacked the male bias of earlier work, demonstrating how data was interpreted to support male superiority.<sup>38</sup> Woolley, for example, spoke out on the ways that popular belief had seeped into scientific practise and affected results. In 1910 she wrote;

There is perhaps no field aspiring to be scientific where flagrant personal bias, logic martyred in the cause of supporting a prejudice, unfounded assertions, and even sentimental rot and drivel, have run riot to such an extent as here.<sup>39</sup>

Despite the challenges women faced in male-dominated academia, there were a number of female scholars who became successful experimental psychologists in their own right. American women such as

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<sup>37</sup> Furumoto, "Mary Whiton Calkins," 63.

<sup>38</sup> Robert H. Lowie and Leta Stetter Hollingworth, "Science and Feminism," *The Scientific Monthly* 3 (1916): 284.

<sup>39</sup> H. T. Woolley, "Psychological Literature: A Review of the Recent Literature on the Psychology of Sex," *Psychological Bulletin* 7 (1910): 340.

Nevers, Calkins, Tanner, Hollingworth, and Woolley published scholarship on gender difference that contained their feminine perspective. Their contributions to two major debates within the discipline regarding gender differences – word originality and the variability hypothesis – demonstrates how vital female psychologists were in overturning misconceptions about gender difference. Regardless of which debate these women were engaged in, their central argument was that mental capacity was not innately gendered and any existing gender differences could be explained by environmental factors.

The debate relating to gender and word originality began with Jastrow's 1891 article, "A Study in Mental Statistics".<sup>40</sup> It was part of a wider discussion over whether sex differences were learned or innate. Jastrow's research, undertaken at the University of Wisconsin, claimed that women were biologically mentally inferior to men as their thinking showed less diversity.<sup>41</sup> He used 25 men and 25 women as test subjects, whom he asked "fifty lists of one-hundred disconnected words" to investigate word associations. Jastrow then analysed the number of times the same words were repeated by men or women.<sup>42</sup> He concluded that women's lists contained "less variety" and showed less imagination.<sup>43</sup> His analysis of word frequency in men and women's lists supported the argument for gendered

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<sup>40</sup> Jastrow, "A Study in Mental Statistics," 559–568; Mary Whiton Calkins, "Community of Ideas of Men and Women," *Psychological Review* 3 (1896): 427.

<sup>41</sup> Jastrow, "A Study in Mental Statistics," 559–568; Calkins, "Community of Ideas of Men and Women," 426.

<sup>42</sup> Jastrow, "A Study in Mental Statistics," 559.

<sup>43</sup> He found that women used 44.9 per cent different words, while men used 55 per cent different words. Jastrow, "A Study in Mental Statistics," 564.



intellects, with him distinguishing between “feminine” traits, such as the ornamental, and “masculine” traits, such as the constructive.<sup>44</sup>

Jastrow’s article was responded to by three women; Nevers (a student of Calkins), Calkins and Tanner of the University of Chicago. Although the discussion does not deal directly with memory or truthfulness, it did engage with collective differences in brain function. Their engagement with Jastrow’s Wisconsin experiment demonstrates the strong community of psychologists who were working on mental experiments, repeating and criticising each other’s research. It also shows how female scholars were using empirical evidence to produce arguments that countered the male-dominated view that women were intellectually inferior to men.<sup>45</sup>

Nevers was the first scholar to respond directly to Jastrow’s study, publishing in *Psychological Review* the results of her own similar experiment, supervised by Calkins. She argued that her data directly contradicted Jastrow’s, by showing that women demonstrated more individuality in their word choice. The next publication by the journal in January 1896 included a rebuttal by Jastrow, who contended that the methods used in either experiment were too different and meant the data was not comparable. The divergence in method that he was referring to was that the subjects in the Wellesley experiment had not been told to “write as rapidly as possible” as was the case in Jastrow’s, and less time pressure, he claimed, was the reason for the conflicting results. Calkins entered the debate directly the same year, publishing again in the *Psychological Review*

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<sup>44</sup> Jastrow, “A Study in Mental Statistics,” 565–566.

<sup>45</sup> Cordelia C. Nevers and Mary Whiton Calkins, “Dr Jastrow on Community of Ideas of Men and Women,” *Psychological Review* 2 (1895): 363–367; Amy Tanner, “The Community of Ideas of Men and Women,” *Psychological Review* 3 (1896): 548–550.

the results of an amended version of Nevers' methodology that accommodated Jastrow's criticism.<sup>46</sup>

Jastrow's Wisconsin results found that men showed more originality in word choice than women (746 unique words compared with 520 from women).<sup>47</sup> Calkins' experiment, however, disputed these results by arguing for the opposite; that women displayed more word originality than men.<sup>48</sup> Out of 2,500 words reproduced, the Wellesley women wrote 868 that were never repeated, while the Wisconsin men wrote 746 and the Wisconsin women 520.<sup>49</sup> The results of another word-association test, conducted by both Jastrow and Calkins, also established differing accounts of gender and word originality. The experiment involved the subject listening to ten monosyllabic nouns in succession, and writing down the first word that came into their mind after each. While Jastrow's results suggested that neither gender was more likely to have similar word associations, Calkins found instead that women were more likely to produce a unique word at a rate of 50%, whereas for men the percentage of repeated words was at 65%.<sup>50</sup>

Calkins engages with the wider debate on the origins of sex differences in her article by arguing that gender distinctions were "artificial and illogical." On the final page, Calkins asserts that Jastrow's approach of distinguishing lines of thought into feminine and masculine was "futile and

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<sup>46</sup> Furumoto, 64.

<sup>47</sup> Calkins, "Community of Ideas of Men and Women," 428.

<sup>48</sup> *Ibid.*, 427.

<sup>49</sup> *Ibid.*, 427, 428.

<sup>50</sup> *Ibid.*, 428.

impossible” because of environmental factors.<sup>51</sup> Arguing that men and women were treated so differently from birth and throughout their lives, Calkins shows that any experiment cannot separate biological brain function from societal grooming.<sup>52</sup> Differences between men’s and women’s mental capacities, she argued, were social in nature rather than inherent in each gender’s biology. Calkins’ reasoning is therefore maintained that women could succeed intellectually were they given equal opportunities to men.

Tanner, another woman who entered the debate on gender and word originality in 1896, further exemplifies how female psychologists were challenging male biological superiority with their scholarship. She supported Calkins’ work by claiming that differences between genders were due to differences in “their habits of life”.<sup>53</sup> These habits, she argues, were not reflective of physical differences where one gender is better suited to a certain occupation, because women had not been given any opportunity to succeed in these areas.<sup>54</sup> She ends her article by stating that any study that tried to distinguish innate differences between men and women would be unsound, as “the real tendencies of women cannot be known until they are free to choose, any more than those of a tied-up dog can be”.<sup>55</sup>

The second debate that demonstrates how female scholars were questioning scientific understandings of gendered mentality was regarding mental variability. The debate was focussed on the social Darwinian-inspired view that men had a broader range of physical and mental traits,

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<sup>51</sup> Calkins, “Community of Ideas of Men and Women,” 430.

<sup>52</sup> *Ibid.*, 430.

<sup>53</sup> Tanner, “The Community of Ideas of Men and Women,” 549.

<sup>54</sup> *Ibid.*, 550.

<sup>55</sup> *Ibid.*, 550.

which drove the evolutionary process.<sup>56</sup> In comparison, women were mediocre, overshadowed in both extremes by the great successes and shameful failures of men. As Hollingworth noted, this hypothesis was the foundation of the widely held academic and public understanding that men were smarter than women.<sup>57</sup> For if men had greater variability, then it was believed that they had greater chance of being abnormally intelligent than women.<sup>58</sup> In the words of E. L. Thorndike, a leading psychologist who believed in the variability hypothesis, “in the great achievements of the world in science, art, invention, and management, women have far been excelled by men.”<sup>59</sup> Women’s lack of achievements, he claimed, were due to their innate biologically inferiority, and not environmental factors that prevented women from succeeding in the same ways that men had.<sup>60</sup>

In a series of articles published in 1913, 1914 and 1916, Hollingworth, who was once a student of Thorndike’s, challenged the variability hypothesis by arguing that gender differences were caused by environmental factors.<sup>61</sup> Hollingworth also challenged common misconceptions about female biology in her 1914 doctoral dissertation, which researched the impact of female menstruation on mentality.<sup>62</sup> Done at

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<sup>56</sup> Rutherford and Granek, “Emergence and Development of the Psychology of Women,” 22.

<sup>57</sup> Leta Stetter Hollingworth, “Variability as Related to Sex Differences in Achievement: A Critique,” *American Journal of Sociology* 19 (1914): 510–512.

<sup>58</sup> Hollingworth, “Variability as related to Sex Differences in Achievement,” 510.

<sup>59</sup> E. L. Thorndike, *Educational Psychology* (New York: Teacher’s College, Columbia University, 1910), 35.

<sup>60</sup> Shields, “Functionalism, Darwinism, and the Psychology of Women,” 747.

<sup>61</sup> Leta Stetter Hollingworth, “The Frequency of Amentia as Related to Sex,” *Medical Record* 84 (1913): 753–756; Hollingworth, “Variability as Related to Sex Differences in Achievement,” 510–530; Leta Stetter Hollingworth, “Social Devices for Impelling Women to Bear and Rear Children,” *American Journal of Sociology* 22 (1916): 19–29; Shields, “Functionalism, Darwinism, and the Psychology of Women,” 747.

<sup>62</sup> Leta Stetter Hollingworth, “Functional Periodicity: An Experimental Study of the Mental and Motor Abilities of Women During Menstruation,” *Contributions to Education* 69 (New York: Teachers College, Columbia University: 1914).

Columbia University, her work demonstrated that the idea that women became mentally incapacitated when they had their periods was scientifically unsound.<sup>63</sup> She did this by comparing men's and women's ability to carry out motor, cognitive, and perceptive tasks. Hollingworth was clear about her work's relevance to the feminist movement, writing in 1914 about the importance of her work "for those who hope much from the present tendency to remove all disabilities of law, custom, and prejudice from women."<sup>64</sup>

Hollingworth's research had the potential to challenge the common view, expressed by Gross in 1898, that women's mentality was significantly altered by menstruation, making them a particularly unreliable witness during that time.<sup>65</sup> Unfortunately, forensic psychologists and jurists took no interest in her work or its implications for how female testimony was analysed in legal cases. Furthermore, doubting female accounts on the basis of menstruation has continued to permeate Western culture despite decades of scientific evidence suggesting that there is no correlation. It is thus extremely unlikely that even if her research were acknowledged, it would have made any changes to how female biology was understood considering the highly patriarchal society that relied on such distinctions.

Another significant female psychologist who engaged with the debate on mental variability and gender was Woolley. Like all the women discussed in this chapter, Woolley challenged psychology's understanding of gendered

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<sup>63</sup> Hollingworth, "Functional Periodicity," v.

<sup>64</sup> Hollingworth, "Variability as Related to Sex Differences in Achievement," 510; Furthermore, two years later Hollingworth published an article in *The Scientific Monthly* on the potential for science to support feminist ideals; Lowie and Hollingworth, "Science and Feminism," 277–284.

<sup>65</sup> Gross, *Criminal Psychology*, 312.

differences as biological. In doing so, she was particularly critical of the variability hypothesis. She believed that there was no evidence of a direct relationship between physical and intellectual strength that would suggest the former could shed light on the latter.<sup>66</sup>

Woolley's 1910 article summarizing psychological research on the female brain demonstrates her position. After discussing the then recent debunking of the claim that the averagely smaller female brain indicated a lower level of function, Woolley went on to discuss the incorrect scientific practices that such conclusions derived from.<sup>67</sup> Among the list of malpractices was that certain scientists were aware of the gender of the brain under observation.<sup>68</sup> Woolley's main argument throughout her work was that the differences between male and female mental capacities were not great enough to be definitive in favour of either gender. This was because variances in data of men and women were so slight that they could be more accurately explained by differences in "societal expectation" rather than physiology.<sup>69</sup> She faced criticism for her claims, notably from Hall who believed that ignoring evolutionary doctrine invalidated her results.<sup>70</sup>

In conclusion, women were the main contributors to the discourse that affirmed their equality to men. They often published research that went against academic and societal orthodoxy, using experimental means to assert that mentality was not innately gendered. Their scholarship was influenced by their own experiences, as it not only validated the ability of

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<sup>66</sup> Shields, "Functionalism, Darwinism, and the Psychology of Women," 746.

<sup>67</sup> Woolley, "Psychological Literature," 335.

<sup>68</sup> Ibid., 336.

<sup>69</sup> Minton, "Psychology and Gender," 615.

<sup>70</sup> Diehl, "The Paradox of G. Stanley Hall," 868–870; Hall, *Adolescence*, 565.

women to give reliable accounts, but also asserted their own abilities to be scholars. However, female contributions were largely ignored by male psychologists of testimony, who were not particularly interested in gender distinctions to begin with, believing either that all male studies were sufficient in studying the norm, or finding more interest in distinctions of age. If they had considered the work of the female scholars discussed here – Calkins, Tanner, Hollingworth and Woolley, they may have been forced to reconsider their assumption that gender differences in mentality were biological, and by doing so reassess the gender biases that had seeped into their understanding of witness psychology.

## Conclusion

On February 10, 2012, the Supreme Court of Canada ruled that the testimony of a disabled woman with the mental functioning of a three to six year old could be included in court.<sup>1</sup> The 19-year-old woman known as “KB” had accused her stepfather of sexual abuse. She told her teacher, who in turn reported it to the police, to whom KB gave a videotaped statement. Two lower courts found that the statement was inadmissible because the witness could not adequately demonstrate that she understood the difference between the truth and a fabrication. The Supreme Court overruled this interpretation of the *Canada Evidence Act*, claiming that it was too rigid and that to disregard the testimony of disabled victims of sexual violence would establish precedent for such abuse going unpunished.

The case of *R. v D.A.I.* demonstrates that conceptions of reliability remain a pressing area of legal interpretation. Judges and juries must constantly determine whether to trust, or to what extent to trust, someone’s memory. Several new technologies introduced during the past thirty years have changed how the justice system prosecutes and reaches verdicts.<sup>2</sup> DNA testing has enabled the verification of historical rulings, with several high profile examples recapturing the public’s interest in the unreliability of witness testimony in much the same way that Münsterberg’s celebrity persona did during the 1910s. For example, Ronald Cotton was convicted of sexually assaulting Jennifer Thompson-Cannino in 1985 after she identified

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<sup>1</sup> *R. v. D.A.I.*, 5 October 2, 2012, accessed September 19, 2016, <https://scc-csc.lexum.com/scc-csc/scc-csc/en/item/7990/index.do>.

<sup>2</sup> Sporer, “Lessons,” 752.



him as her attacker in a photo line-up.<sup>3</sup> Cotton was falsely imprisoned for 10 years until DNA evidence proved that he was not guilty and was released. The case has become a key example used to demonstrate witness fallibility by *The Innocence Project*, an American organisation working to free falsely convicted prisoners. Wider recognition of witness reliability and suggestibility have further permeated public consciousness with the popularity of the podcast *Serial* (2014), which details the case of Adnan Syed who was accused of murdering his ex-girlfriend Hae Min Lee, as well as several documentaries such as *An Unreal Dream* (2013) and *The Thin Blue Line* (1988).

Despite the fact that technological advancements have resulted in more accurate trial verdicts, physical evidence is not always available and some cases continue to rely solely on witness testimony. Thus, the psychological research on witness reliability that began nearly one hundred and fifty years ago continues to have a place in contemporary society. Furthermore, female testimony, which received much distrust nearly one-hundred and fifty years ago, continues to be devalued by modern legal systems.<sup>4</sup> Legal discussion on gendered testimony in a modern context has focussed on cases, such as the one above, involving (usually sexualized) violence against women.<sup>5</sup> In such cases the word of the victim is often the only form of evidence available to the court, and yet the traditional trope

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<sup>3</sup> The Innocence Project, "Case: Ronald Cotton," <http://www.innocenceproject.org/cases/ronald-cotton/>

<sup>4</sup> Mack, "Continuing Barriers to Women's Credibility," 328.

<sup>5</sup> Rosemary C. Hunter, "Gender in Evidence: Masculine Norms vs. Feminist Reforms," *Harvard Women's Law Journal* 19 (1996): 128.

that women routinely make false accusations of rape has continued to affect the outcome of sexual assault cases.<sup>6</sup>

Addressing these ongoing injustices will involve changing the ways in which women are perceived and valued. Law and psychology reflect, to some extent, society's biases, and despite the positive changes that have occurred over the past century – such as the enfranchisement of women and their ability to own property - sexism and misogyny remain critical issues for society and for law and psychology as a microcosm of that whole. While law and psychology are becoming more self-aware of how gender affects their practices, and in particular how bias towards female witnesses operates, a deeper understanding of the intellectual origins of such biases would benefit both disciplines.<sup>7</sup> If we are to dismantle injustices in the present, there is no better place to begin than understanding how these injustices have been intellectualized, validated, and challenged in the past.

The objective of this thesis has been to facilitate this understanding by examining the ways in which men and women were differentiated in turn of the century studies of eyewitness testimony. Psychology is not value free.<sup>8</sup> It is conceptualised, theorised and analysed by people inextricably linked to their culture and society. Because of this connection, a study of the psychological texts produced by a particular society can teach us much about the values, beliefs and perceptions that underpin that society. The intellectual texts on the reliability of the witness used in this thesis reveal

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<sup>6</sup> Mack, "Continuing Barriers to Women's Credibility," 329.

<sup>7</sup> Hunter, "Gender in Evidence," 127, 128.

<sup>8</sup> Mandler, *A History of Modern Experimental Psychology*, xvii.

valuable insights into the ways that culture valued men and women differently, and how and why these values changed over time.

Firstly, juridical and criminological texts on the witness from the late nineteenth century show that women were distrusted and treated with disdain. These works used unscientific evidence stemming from a range of sources such as the bible, popular books, philosophical musings, and personal experiences. All of the evidence given portrayed women negatively – being morally depraved, incapable of being honest, and even dangerous to society.

In the process of defending their discipline from the threats of unsupportive universities and the rise of spiritualism, psychologists began to explore areas relating to witness reliability such as perception and memory. These initial studies showed little interest in gender difference. They either ignored women by using their students – all white protestant men – as subjects, or in cases where questions of gender difference arose they referred to anecdotal evidence of male superiority. This depiction demonstrates that male superiority was largely taken for granted within society. The possibility that women's perspectives deserved to be treated the same as men's was not considered by the intellectual elite. Instead they took it for granted that their own experience – and that of other white educated men – was the only experience deserving of scientific study.

Gradually, ground level movements such as women's suffrage and feminism challenged the societal structure within which these psychological works were produced. Women actively challenged their position as wives and homemakers, asserting themselves within the political sphere and

demanding equal legal rights.<sup>9</sup> This is reflected in psychological experiments, which began to compare the gendered data of school children and to include female psychology students in their experiments. While scholars began to ask questions about gender difference from a scientific perspective, it remained a peripheral issue, and women continued to be portrayed negatively due to their supposed biological inferiority.

The impetus for exploring gender difference as a main area of study grew from the inclusion of women into academia. Female scholars had a vested interest in proving the intellectual equality of women, and their own positions as academics relied on an understanding of their gender as having comparable intelligence and capabilities to men. It was through their research in peripheral, but connected sub-disciplines, such as the psychology of education, that scientific claims to female intellectual inferiority began to be critically explored and social explanations of gender difference were proposed. This rethinking of gendered intellect challenged the foundation of earlier work that claimed that women were unreliable because they had less accurate memories, and reflects the wider rethinking of gender roles that made such research by female psychologists possible. Therefore, as societal attitudes towards women changed, so did psychological perceptions of them.

There are three notable under-researched areas relating to conceptions of gender difference in the psychology of testimony at the turn of the twentieth century. Firstly, it would be valuable to explore intellectual developments within one geographical context, such as the United States or

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<sup>9</sup> McCammon et al., "How Movements Win," 49, 53.

Germany. While this would be challenging because of the international nature of the intellectual community researching eyewitness reliability, a smaller geographical scope would allow for stronger connections to be drawn between a country's political and social climate and the psychological discourse being produced. One method of approaching such a task that future historians may want to consider is to treat intellectual sources originating outside of the country of focus as contextual. The Indian context would be particularly interesting, as it would provide insight into colonial justice at the turn of the century, as well as a unique perspective on gender as it connects with race.

A study of the psychology of testimony within India would also benefit the second area that remains to be explored – a study on intersectionality in psychological texts of witnesses at the turn of the century. The narrow definition of gender this thesis used was necessary to mimic that used by psychologists at the turn of the century. However, a study focusing on a singular country where divisions other than gender were prominent would facilitate a more nuanced understanding of how witness identity influenced admissibility. The United States would also offer an interesting context for this kind of study considering the racial politics and prominence of racial violence at the turn of the twentieth century.

The final form of research for future consideration is a comparative study. To some extent this thesis has highlighted comparative elements, such as the differences in interdisciplinary relationships between law and psychology in the United States and Germany contained in Chapter Four. However, research that focussed exclusively on comparing two countries'

psychological scholarship, interdisciplinary connections, or legal texts, could provide insight into how and why certain intellectual trends exist in one context and not another, as well as how and why some intellectual trends transcend political, linguistic and cultural borders.

This thesis has sought to contribute to a little investigated area of the psychology of testimony, namely the understandings of gender and eyewitness testimony at the turn of the twentieth century. This history remains relevant even today, as female witnesses still face prejudice against their testimony in court, and an increased understanding of the intellectual origins of such biases can help to reverse them. There are several gaps in our historical understanding of intellectual attitudes towards gender and eyewitness testimony that would benefit from future study. Opportunities to engage with intellectual texts within one country, intersectionality, and comparative studies would greatly enrich our present understanding. While this work remains to be done, this thesis has taken the first steps towards making such studies possible.

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