CHAPTER 1

Work, Psychology, and History

This book is a history of the origins and early years of industrial-organizational (I-O) psychology from the late 1800s to the early 1930s. In the early twentieth century, psychology was becoming established in colleges and universities, and the early psychologists were beginning to explore ways of applying their new science to the clinic, courtroom, and classroom. Some of these early scientist-practitioners turned their attention to the problems of industry, initially in the field of advertising and the study of fatigue. Notable was the interest in improving the efficiency of organizations, especially by improving employee selection procedures. From these initial efforts, I-O psychology has evolved into a worldwide enterprise with thousands of researchers and practitioners.

This is not a book of ancient history; this is history just out of reach. Many of the individuals who are central to this history lived well into the second half of the twentieth century. The early years of that century, however, were in many ways a different world. The late nineteenth and early twentieth centuries saw the electrification of cities, the great expansion of railways, and the advent of the internal combustion engine and the automobile. There was the rise of industrialization and of large corporations, with a concurrent emphasis on efficiency and production. Cities were expanding, as people migrated from an agrarian life to an urban one. World War I, the Great War, ushered in the beginning of large-scale mechanized, industrial warfare. There were many advances in science, including popularization of evolution and the establishment of a scientific psychology, central to the history of early industrial psychology. The environment was favorable for a psychology applied to the concerns of industry and business. Before beginning our history of this endeavor, however, a discussion of the terminology used to describe the evolving field is in order, followed by a brief description of present-day I-O psychology.

The use of *industrial-organizational* psychology in the book's title is something of a misnomer, as this term is a relatively recent one that was not in use during the time period covered in this book.[1] During the early part of the twentieth century, psychologists in the United States who worked with business organizations were variously called *economic psychologists*, *employment psychologists*, *business psychologists*, *consulting psychologists*, *applied psychologists*, *vocational psychologists*, or *industrial psychologists*, with *consulting psychologists* the preferred term early on and *industrial psychologists* becoming common by the 1920s (Arthur & Benjamin, 1999). *Industrial psychology* was also used in Great Britain, as shown, for example, by its use in the titles of a series of textbooks by the early industrial psychologist Charles S. Myers (Myers, 1925, 1926, 1929). Today in Great Britain the common term is *occupational psychology* (Warr, 2007).[2] In continental Europe, the term used to describe the activities of early psychologists involved in industrial work was a variation of the German *Psychotechniks*, coined by William Stern in 1903 (Allport, 1938).

Psychotechniks was translated into other European languages, including Dutch (*psychotechniek*), French (*psychotechnique*), Italian (*psicotecnica*), Russian (*psikhoteknika*), and Spanish (*psicotecnia*) (Salgado, 2001). Viteles (1932) viewed psychotechnology as akin to applied psychology. He saw the use of the term to describe only industrial applications as mistaken, noting that in Germany, applying psychology to industry was termed *industrielle psychotechnik*, similar to the use of *industrial psychology* in America. Geuter (1992), however, noted that by the 1920s in Germany, *psychotechnics* and *industrial psychology* were synonymous. Hugo Münsterberg (1914), who popularized the term, viewed psychotechnics as a mechanized approach to applied psychology. He viewed psychotechnics' relationship to general psychology as similar to how engineering is related to physics, that is, a technical specialty related to a scientific endeavor (cited in van Strien, 1998a). Viteles (1974), who studied in Europe in 1922 and 1923, preferred the more laboratory- and theory-based approaches to industrial psychology exemplified by the work of Otto Lipmann to the psychotechnology practiced by Walther Moede and Curt Piorkowski. *Psychotechnics* was never the preferred term in English, and in fact American psychologists, such as

[1] The American Psychological Association's (APA) division for I-O psychology, Division 14, changed its name from "Industrial Psychology" to "Industrial-Organizational Psychology" in 1973. Seeking a measure of independence from APA, the division incorporated as the Society for Industrial and Organizational Psychology (SIOP) in 1983 (Benjamin, 1997b).

[2] In a 1948 memoir, the British psychologist T. H. Pear noted that although he still used the term industrial psychology, "we . . . tell our students that 'occupational' is a better word" (p. 112).

Kitson (1922b) and Viteles (1932) who used it found it necessary to explain its meaning to readers (Gundlach, 1998). By the late 1930s, even in continental Europe, the term was being replaced by *applied psychology* (Warr, 2007).

In 1912, the term *work psychology* was first used by Leo Engel in two articles in the journal *Zeitschrift für angewandte Psychologie (Journal of Applied Psychology)* (cited in Salgado, 2001), and this term eventually supplanted *psychotechnics* in continental Europe (Warr, 2007). For the most part, in Europe today the field is known as *work and organizational psychology (W/O)* (Salgado, 2007; Warr, 2007), and in Australia and New Zealand as *organizational psychology* (Warr, 2007). *Industrial-organizational psychology (I-O)* or *industrial/organizational psychology (I/O)* is the preferred designation in the United States.[3] Because this is a history of the roots of present-day I-O psychology, use of that term seemed appropriate in the title, though to be consistent with the time period covered, in discussing the early years I will use more time-appropriate terms such as *industrial psychology* or *psychotechnics* and refer to its practitioners for the most part as *industrial psychologists*.

Definitions of industrial psychology and related terms that appeared in contemporary textbooks were variations on the theme of applying psychology to business and industry. Henry C. Link (1919), for example, defined employment psychology "as the application of the scientific method to the mental actions concerned with employment" (p. 13). Early definitions highlighted the usefulness of this application for industry. Hugo Münsterberg (1913) saw applied psychology as an intermediary between psychology and the problems of business: "[T]he psychological experiment is systematically to be placed at the service of commerce and industry" (p. 3). Bernard Muscio (1920) emphasized that the aim of applying psychology to industry is to help industry meet its goals of reducing waste and increasing productivity. Later definitions (e.g., Viteles, 1932) added fostering worker adjustment to the goal of increasing efficiency, making explicit that, in theory at least, industrial psychology should benefit both management and the worker.

Industrial-organizational (I-O) psychology today is the subdiscipline of psychology concerned with the scientific study of work behavior and organizations. The "I" component, *industrial (or personnel) psychology*,

[3] Use of a hyphen seems to me to be more inclusive than the use of a slash, which implies more of a separation between the industrial and organizational sides of the field. Therefore, in the interest of disciplinary harmony, I will use the hyphenated I-O throughout the book.

can trace its history to the study of individual differences and associated measurement issues. Industrial psychology has traditionally been concerned with human resource management (HRM) topics such as employee recruitment and selection, performance appraisal, and training. The "O" component, *organizational psychology*, has its roots in employee human relations concerns and covers more broad-based topics such as employee motivation, leadership, organizational power and politics, group processes, and organizational socialization, culture, design, and change. The content of organizational psychology overlaps to some degree with that of social psychology, sociology, political science, and especially its younger, more multidisciplinary sibling, *organizational behavior*. Historically there were other activities associated with I-O psychology. One was *engineering psychology* (aka *human factors* or *human engineering*). While human factors is still occasionally covered in I-O psychology textbooks, the field has become more interdisciplinary, incorporating cognitive psychology, physiology, and other disciplines. In human factors, the emphasis is on fitting the job to the person; that is, designing the job or machinery to best fit the human operator. Examples include designing machine displays commensurate with cognitive and physical abilities and designing a workplace to ensure worker safety. Another topic that was once a prominent part of industrial psychology is *vocational psychology*, finding the best job for an individual based on that person's interests and abilities. This area today is associated more with counseling psychology than I-O psychology. And the study of advertising, an early area of interest for industrial psychologists, is now part of the field of consumer psychology. While the "I" and "O" components of I-O psychology developed somewhat separately, there was overlap among the various topic areas in the early years, and there is much overlap today.[4]

Although I-O psychology today has expanded its focus to organizations in the broad sense, in the early years work organizations were emphasized. Before we begin our exploration of the history of I-O psychology, I would like to first reflect on the nature of work and the central place it holds in our lives. Next is a discussion of the importance of understanding the history of psychology, followed by a section on historiography, the methods used when conducting and writing historical accounts. The chapter closes with an examination of the role of perspective for the historian, illustrating its

[4] For the reader interested in more information about I-O psychology, there are a number of excellent introductory textbooks available. Recent examples include Landy and Conte (2016), Levy (2017), Muchinsky and Culbertson (2016), and Spector (2016).

importance by critically examining two classic histories by Edwin G. Boring (1929, revised in 1950) and Loren Baritz (1960).

The Central Role of Work in Our Lives

On the first day of classes in my I-O psychology course, I often point out to my mostly nineteen- and twenty-year-old students that once they complete their education, they can look forward to working forty to fifty hours a week for about the next forty to fifty years of their lives. My point is not to alarm or depress them but to emphasize just how central work will be in their lives; it will be the primary activity of their waking hours. Forty to fifty years is a long time to be dissatisfied, to be unfulfilled, or simply to be doing something you do not enjoy.

For a field defined as the scientific study of behavior in organizations, primarily work organizations, I-O psychology has surprisingly little to say about the subjective experience of work. Certainly this has been a fertile topic for others, from sociologists and journalists to novelists and poets. Given the history of I-O psychology, this neglect is understandable. I-O psychology came from a functionalist tradition in psychology, a desire to be useful. Usefulness for the early industrial psychologists, for the most part, was based on their ability to increase productivity and efficiency. I-O psychologists today know a great deal about how to do that, through organizational interventions such as improved selection, training, and performance appraisal systems. They also know a great deal about work motivation, leadership, employee satisfaction, group processes, and organizational culture, among many other topics. This is all useful information developed over 100-plus years of research and practice. Yet understanding the *meaning* of work has generally not been seen as an important part of that tradition. I need to be clear here that I am not implying that the early industrial psychologists or their disciplinary descendants were unconcerned with worker welfare or that their research and practice have not benefited workers. Understanding work as a means to something else, such as productivity, however, is not the same as understanding the meaning of work in our lives, although I-O psychologists have in recent years begun to devote more effort in this area (e.g., Ford, Hollenbeck, & Ryan, 2014).

Defining what we mean by the word *work* is not a simple matter. Our common-sense conception is that work is something we do in exchange for compensation and that it is something that, for the most part, we would not do if we were not compensated. But even superficial scrutiny of this

definition reveals problems. What about individuals who work without compensation? What about persons who enjoy their work so much that work encroaches on their nonwork time? We get little help from the dictionary. The *Shorter Oxford English Dictionary* (2002) has fourteen separate definitions of work as a noun and an additional twenty-three definitions of work as a verb. In a chapter describing how work is fundamental to human nature, Weiss (2014) proposed a definition of "working" as "agentic activity done with the purpose of changing the environment" (p. 39). While admitting that this is not *the* definition of work, he saw this definition as a useful starting point for developing a science of the subjective experience of working. Whether or not you agree with Weiss's definition, you can agree with him that because work has such an important place in our lives, it is a worthy subject for scientific inquiry.

So what does work mean to the person engaged in it? There is the obvious: that working provides money and other tangible benefits. These benefits might include health insurance and some sort of retirement benefit. In the late 1800s and early twentieth century when industrial psychology was emerging, compensation was generally viewed as the primary reason one worked. Systems such as Frederick Taylor's scientific management, discussed in Chapter 2, implemented programs to improve employee performance based on a simple transaction: change your behavior based on our analysis of how to improve the work process, and your increased production will put more money in your pocket. We will see that things turned out to be not quite that simple.[5]

In addition to compensation, work is also tied to a person's identity. After we learn someone's name, the next question we usually ask is "What do you do?" Our occupation can become an important part of our self-identity. And if the occupational socialization process is strong enough, our career becomes inseparable from who we are. Work can give us the opportunity to learn, to apply our skills in a creative manner, to demonstrate our competence. Our sense of self-esteem can be tied to our job and our ability to do that job well. Work can give structure to our days. While this may appear most applicable to work that allows us some level of self-expression, autonomy, and meaningfulness, work in general can provide an individual with a measure of dignity and self-respect. It is true, however,

[5] Things were actually not that simple for Taylor, who had a more nuanced view of work motivation than a simple transaction of money for performance, although that was a major part of his system. Taylor and some of his colleagues were open to collaboration with psychologists and the examination of other motivators, but for the most part managers focused on the link between an individual's pay and output as the key aspect of Taylor's system (Baritz, 1960).

that during the time period covered in this history of I-O psychology, work was increasingly becoming simplified and mechanized, severely limiting its intrinsic value to the individual. In these situations, autonomy was extremely limited. Workers no longer worked for themselves; they now worked for someone else.

It is worth noting that while it is possible to generalize across individuals regarding their responses to work, there is a great deal of variability in how individuals view their jobs. I-O psychology was built on a foundation of the importance of these individual differences. People differ in significant ways in their interests, personalities, abilities, and attitudes, including their attitudes toward work. While we speak in generalities about what holds true for most workers most of the time, there will always be exceptions. Some workers will be perfectly satisfied in what to another person seems like a tremendously tedious job. While most workers desire a safe workplace, some thrive on risk and prefer dangerous environments. The "average worker" is a useful fiction. While the majority of employees will hover around the mean on whatever work-related variable we are measuring, it is important to remember there are others at the tail ends of the distribution, those who by definition differ from that average.

It is also important to emphasize that the meaning of work may differ across different cultures and societies and that the meaning of work has changed over time. Even in the relatively short time span covered in this book, the nature of work changed due to the advent of the second industrial revolution, the move to larger and more complex organizations with increased mechanization, and the beginning of a shift from a manufacturing economy to a service one. These changes, all relevant to the development of I-O psychology, occurred at different times in different cultures. Work has been viewed throughout history as both a blessing and a curse. In antiquity, work was seen as drudgery. Physical labor was viewed as only fit for slaves and the subordinate classes. By the twelfth and thirteenth centuries, theologians in Europe were stressing the moral and social benefits of work; however, they were not claiming that work had inherent value for the individual. Later proponents of the "work ethic" such as the Puritans in England and America saw work as positive, in that it was good for society and good for the character and health of the worker and it kept individuals away from vices such as alcohol, violence, and sex. Little was said, however, of any intrinsic satisfaction that may be derived from working (Thomas, 1999). From a religious perspective, both Catholic and Protestant traditions eventually came to view all work, not just the

work performed by the clergy, as noble and necessary for salvation (Hulin, 2014).

The mid-eighteenth-century industrial revolution changed both the nature of work itself and the meaning workers gave to it. Mechanization, the separation of the worker from ownership of the finished product, and the advent of large organizations altered the social philosophy of work. The proto-capitalist Adam Smith (1723–1790) and the socialist Friedrich Engels (1820–1895) both saw human beings as natural idlers, who needed monetary incentives to work (Thomas, 1999).[6] Worth was equated with an individual's level of productivity. But throughout this history of work as necessary drudgery, there have been voices, rare before the late seventeenth century, that work can be meaningful to the individual worker and necessary for both physical and psychological well-being. Separated by more than 200 years, both the English clergyman Robert Burton (1577–1640) and the nurse and hospital reformer Florence Nightingale (1820–1910) wrote of the frustration and misery of voluntary and enforced idleness. Adam Smith's negative view of work was based on manual labor; he believed that other types of work could be inherently rewarding. Karl Marx saw the potential for work to lead to freedom and self-knowledge (Thomas, 1999).

Work is an important activity in our lives, not just an economic necessity but central to our self-identity and psychological well-being. Therefore, the scientific study of the behavior and cognitive processes of workers should have a central role in psychology. This does not seem to be the case, however. I-O psychology, with its focus on psychology applied to a particular setting, rather than examining a particular process, such as cognition or learning, can seem like something of an outlier in psychology.[7]

[6] Adam Smith is often caricatured as an uncritical booster for unfettered capitalism (the "invisible hand"). His writings actually demonstrate a great concern for the working poor and a much more nuanced view of capitalism (Smith, 1776/1925).

[7] Evidence for this can be inferred by the paucity of coverage of I-O psychology in the majority of introductory psychology textbooks, which are generally organized around processes. For example, Maynard, Geberth, and Joseph (2002) examined fifty-four introductory psychology textbooks published between 1997 and 2000. They found that only a quarter of them included an overview of I-O psychology and only one text devoted a full chapter to the subject. Less than 2 percent of the total pages contained concepts or examples related to work. In a later survey, Payne and Pariyothorn (2007) looked at fifty-six introductory texts published between 2002 and 2005. Only five contained a chapter on I-O psychology; another three included an I-O psychology appendix. Rozin (2006) found the median number of pages concerned with work across six introductory psychology textbooks was 0.5. On a related note, a 2014 survey of baccalaureate psychology programs in the United States found 66 percent offered a course in I-O psychology/human factors, down from 75 percent in 2005 (Norcross, Hailstorks, Aiken, Pfund, Stamm, & Christidis, 2016).

Paul Rozin (2006) addressed this point. He discussed academic psychology's preference for categorizing its topic areas by process; for example, memory, learning, sensation, and perception. He noted that this propensity dates back to the earliest texts in the field by William James, Edward Titchener, and Wilhelm Wundt, all of whom organized their texts around mental processes. Subsequent textbook authors followed suit. Rozin recorded the median number of pages referred to in the indices of a sample of introductory textbooks for process-related and domain-related words; domain-related words having to do with leisure, food, politics, religion, and, importantly for our discussion, work. He divided up the texts into three time periods, 1890 to 1920, 1922 to 1939, and 1948 to 1958, reviewing five texts per time period. The time period most relevant for our history of early industrial psychology is 1922 to 1939. In that period, he found no entries for "work" in any of the five texts reviewed.[8] Rozin writes that academic psychology has consistently given the highest priority to discovering general laws of behavior and mental processes. It has generally ignored the descriptive phase and moved on to experimental designs to evaluate theory. Basic research was seen as fundamental, and descriptive work and life domains, such as work, were relegated to "applied" research.

As Rozin (2006) implied, in psychology, applied research was seen as less valuable and less challenging than basic research, and basic research was viewed as a prerequisite for applied work. These assertions are open to question. Danziger (1990) could find little evidence for the dependence of applied work on basic research in the early years of the twentieth century. In particular, the industrial psychology topics of personnel selection and advertising developed their own methods and practices that were not dependent on laboratory science. Stokes (1997, cited in Rozin, 2006) demonstrated that many prominent scientists, such as Pasteur, combined basic and applied science. Certainly basic science is dependent on applied work, such as the development of technological advancements (e.g., the MRI for understanding the nervous system). Real-world experimentation can be every bit as challenging as work in the laboratory, where it is easier to control extraneous variables. Rozin's intent is not to place basic and applied research in conflict. It is to show that academic psychology might benefit by spending more time describing and trying to understand life domains, that is, what we actually do, rather than an emphasis on

[8] For the 1890–1920 time period, all but one text was published in 1911 or earlier, too early for industrial psychology. The five texts Rozin (2006) reviewed for the 1922–1939 period were Thorndike (1922), McDougall (1928), Woodworth (1929), Fernberger (1936), and Guilford (1939).

process. More than eighty-five years before Rozin's discussion of the importance of applied research, Edward L. Thorndike, well known for his laboratory research, offered his own defense of applied research. Thorndike (1919), in discussing the efforts of applied psychologists in World War I, stated that applying psychology to business, industry, or the military " . . . is harder than making psychology for other psychologists, and intrinsically requires higher talents." He further noted that the lab scientist is to a large extent free to choose the topic, that "[i]t is relatively easy to be scientific when you can direct your talent in any one of ten thousand directions; yourself asking the questions for which you proceed to find the answers!" For Thorndike, applied research was more difficult: "Psychology applied to the complicated problems of personnel work represents scientific research of the most subtle, involved, and laborious type" (p. 60).

The applied versus pure research debate is a reoccurring theme throughout this book. There is little debate, however, about the central place work occupies in our lives. It therefore follows that systematically studying work behavior and its ramifications is a valuable pursuit. I-O psychologists have a long history of doing just that. What are the benefits of studying the history of that undertaking, of examining the history of I-O psychology?

The Importance of a Historical Approach to Psychology

In 1960, Robert I. Watson published an influential article titled *The History of Psychology: A Neglected Area*. In that article, Watson decried the "provincial" attitude of American psychologists and their lack of interest in the history of their field. As evidence, he surveyed twenty years (1938–57) of the three journals most likely to publish history articles, the *American Journal of Psychology*, the *Journal of General Psychology*, and the *Psychological Bulletin*, and found that only 1 percent of publications in those journals could be classified as primarily historical in orientation. As further evidence, he examined the stated interests of the 1,638 psychologists listed in the 1958 *American Psychological Association Directory* and found that only 0.3 percent of psychologists listed history as an interest area. Watson speculated that the increase in specialization, expansion of the field, and a belief that historical work is somehow unscientific are among the possible reasons for this lack of interest. Nevertheless, as he succinctly put it: "To neglect history does not mean to escape its influence" (p. 255). Roughly half a century later, others (e.g., Benjamin & Baker, 2009; R. Smith, 2007) were still arguing for the relevance of a historical approach