

Introduction

How can evolutionary theory influence and alter the ways we think about, conduct research on, and practice human resource management (HRM)?¹ While evolutionary theory has been a theoretical bedrock of the life sciences for a century, it has only recently – primarily within the last decade – made inroads into organizational theory and psychology. With few exceptions, ideas from evolutionary theory are absent from scholarship and practice in HRM. This book is an attempt to get the evolutionary ball rolling. I believe both the general paradigm of evolution by natural selection – as well as specific ideas from socio-cultural evolution and evolutionary psychology – can make important contributions to the ways we think about, design, and practice HRM.

Other than to provide occasional background, I do not discuss the literature on traditional approaches in HRM. Rather, my goals are: (1) to present an evolutionary framework for thinking about HRM practices; (2) to describe examples of HRM practices based on an evolutionary perspective; and (3) to stimulate further research and pragmatic policies and practices from an evolutionary perspective so that they become integrated into everyday thinking about human resource management. This book offers something for both the theoretically-minded scholar and the thoughtful manager.

The seeds for it were planted early in my career. While serving as a consultant, I noticed that organizations rarely used the state-of-the-art human resource practices that I learned about in graduate school. Moreover, I noticed that HR practitioners rarely adopted the new practices that studies in scientific journals claimed were effective. In one medium-sized, family-owned firm,

¹ Human resource management involves those activities, in formal organizations, directed towards the acquisition, transformation, utilization, and elimination of human resources. Typical human resource management activities include: recruiting and hiring, training and development, evaluating and controlling, group and organizational

the human resource manager I worked with prided himself on his knowledge of statistics and modern personnel-selection testing methods. He had earned a Ph.D. and was trained as an industrial/organizational (I/O) psychologist. Yet when it came to hiring, tradition prevailed. Rather than using professionally developed tests or conducting studies of validity, he interviewed candidates. The organization did not even train managers to conduct “proper” standardized, structured interviews. In another organization (a Fortune 100 company), I worked with a management development manager (also trained as an I/O psychologist) who was in charge of management training. We used few state-of-the-art training practices. The department normally did not base training programs on an analysis of needs, and it frequently used the latest training fads. I cannot recall that we ever evaluated our training programs to determine whether they worked. These problems were not unique to my experience, but they have plagued the fields of human resource management and I/O psychology for years (Johns, 1993).

This problem is not confined to organizations in the United States nor to business organizations in the private sector. As it turns out, organizations in Britain and Europe also use HRM practices for which HRM scholars have found little or no scientific validity. One of the most widely used selection tests in France is graphology (handwriting analysis), yet studies have found no relationship between handwriting characteristics and subsequent job performance (Ben-Shakhar, Bar-Hillel, Bilu, Ben-Abba, & Flug, 1986; Bruchon-Schweitzer & Ferrieux, 1991). Ironically, the problem occurs in universities, too—and among I/O psychologists who teach there. When I began my career as a professor, I noticed that professors of I/O psychology would use traditional procedures rather than the “best practice” techniques that they taught to their students. We taught our students to use structured interviews, yet we did not use them

design, and terminations and retirement.

ourselves when hiring new faculty. We advised our students that letters of recommendation were unreliable, yet we required them from all candidates for faculty jobs and applicants to our graduate programs. I remember one faculty member in particular. He was critical of traditional personnel methods, heaping scorn on ignorant personnel managers who did not use the latest scientific HRM techniques. Yet when involved in hiring a new faculty member, he hung on every word of a letter of recommendation, not hesitating to reject a candidate whose letter contained just one unflattering phrase. We also told our students about new training technologies; yet most of us continued to use traditional lecture-and-discussion methods in our own teaching. Was this just the everyday, garden variety of “resistance to change,” commonly encountered with any attempt to innovate? Or was this inconsistency unique to HRM? I had the uneasy feeling that, although innovations typically meet with resistance, the deep reluctance to innovate in HRM reflected a real problem with modern HRM rather than just habitual resistance to change.²

The HRM literature has been around since the middle of the 20th century, and the origin of many commonly used HRM interventions (IQ tests, work sample tests, job analysis, employee training, pay for performance) goes back to the beginning of the 20th century. Technologies that have been in existence for a much shorter time are widely accepted and used by organizations (and individuals) throughout the world. Personal computers were introduced commercially in the 1980s and the Internet was introduced several years later. By 1998, less than two decades

² A note on terminology is appropriate here. I will use the term *intervention* in a general way to refer to social technologies that are intended to produce specific social or administrative outcomes. I will refrain from using the word social technology because *technology* has the connotation of physical artifacts. Modern technology, moreover, connotes physical artifacts based on knowledge from the natural sciences. To be precise, however, a *technology* – whether physical or social – is a design or process to reduce cause-effect uncertainty in achieving an intended effect (Rogers, 1983). For example, selection technologies are processes for predicting the behavior of job applicants. *Method* refers to a general class of technology. For example, the interview would be one method for hiring people, while paper-and-pencil tests would be another method. *Technique* refers to a variation within a given method. The structured interview is one type of interview technique, while an unstructured interview is

later, 42% of adults said they had personal computers in their homes. Sixty-five percent of them reported they had access to the Internet. In 1993, less than 3% of U. S. classrooms were connected to the Internet; by 1998, over half had Internet access (Hall & Visgaitis, 1998). Most of the people who develop or sell technologies use what they make or sell. Microsoft Co-founder Bill Gates has a reputation for frequently using e-mail, even answering messages from just about any Microsoft employee who sends him one (Gates, 1999). Most Americans would find it absurd if they learned that Mr. Gates used a typewriter (rather than a word processing program) to compose business correspondence, or a calculator (rather than a spreadsheet program) to analyze financial plans. Similarly, because of the credibility of scientific research that links smoking to lung cancer and heart disease, we would find it absurd if most physicians were heavy cigarette smokers. The same can hardly be said about HRM practitioners and scholars who often do not use the technologies they develop.³

However, *some* modern social technologies are widely used in *some* sectors—principally in public sector organizations. Although standardized tests see limited use in the private sector, government organizations, the military, and universities use them extensively (Wigdor & Garner, 1982). Almost every student who applies to college must take the SAT or ACT (Lemann, 1999). Although only about 11% of companies use formal training programs to train their non-management employees (Labor Letter, 1991), the military uses them extensively. The use of formal performance appraisal is another conundrum. Although hundreds of articles on performance appraisal have been published by academic psychologists, and some academic

another type of interview is another technique. In the social science literature, *intervention* typically refers to social technologies that are introduced into social systems, while a *practice* is a method or technique that an organization uses routinely.

³ Although I have yet to come across a survey on the extent to which I/O psychologists practice what they preach, an article by York and Cranny (1989) advises new I/O psychologists looking for jobs in university psychology departments that the primary hiring practices they will encounter are letters of recommendation and unstructured interviews. Professional newsletters and job ads reflect a similar protocol. Almost every professional job advertisement requires applicants to submit several letters of

psychologists argue that the economic utility of state-of-the-art performance appraisal is high, many organizations do not act as if performance appraisal is important. In a textbook on performance appraisal, two industrial psychologists acknowledged that executives do not seem to care a whit about the academic literature on performance appraisal.

A quote from one of these people [surveyed on the topic of performance appraisal] neatly summarizes the attitude of many managers and supervisors toward performance appraisal: “At some places the PA [performance appraisal] process is a joke—just a bureaucratic thing that the manager does to keep the IR (industrial relations) people off his back.” If organizations really believed that valid performance appraisal could lead to savings in the millions, they would hardly treat performance appraisal in such a cavalier fashion and would not tolerate executives who regarded appraisal as a joke.

Murphy & Cleveland (1995, p. 308).

Yet performance appraisal is widely used, implemented carefully, taken seriously, and relied upon for promotions and firing decisions in college and professional sports. Copious and accurate performance records are a hallmark of collegiate and professional sports. Almost any book on any sport or the sports pages of a daily newspaper contain columns of appraisal statistics (batting averages, passes completed, race times to the one-hundredth of a second). Virtually any nine year-old in the United States – and almost certainly any nine year-old in San Francisco or St. Louis – knows which baseball player holds the record for the most home runs in a season. The name of the ballplayer, the number of home runs, the year of the record, the ballplayer who is in second place, and his home run performance are common knowledge (mainly, but not

recommendation. An interesting study would ask I/O psychologists about which hiring methods they use and ask why they use them.

exclusively, among baseball fans).⁴ Performance appraisal is not a joke in sports. Yet the words *sports* or *athletics* are not listed in the index of Murphy and Cleveland's book.

The issue of *use* seemed to me a – perhaps *the* – critical problem for HRM. We need to understand why organizations use the practices that they do and under what circumstances. We need to learn why the methods recommended in the HRM literature are used so infrequently in so many organizations. We know little about why traditional practices are used as much as they are and what accounts for their remarkable staying power. People are reluctant to give up traditional practices and also hesitant to use newer ones. But we do not know why. I found it puzzling that there has been little research on the use of HRM interventions (for exceptions, see Johns, 1993; Terpstra & Rozell, 1997). Of 63 articles on training published in five of the top scholarly journals related to HRM between 1983 and 1994, only three examined factors that affected the use of training. Other than passing comments on the economic utility of employment tests, the chapter on personnel selection in the most recent edition (1991) of the *Handbook of Industrial and Organizational Psychology* mentions no factors that affect the use of selection procedures.

What theoretical framework might be useful for explaining the utilization of HR interventions? As my research and theoretical work moved to these questions, I began to develop an evolutionary perspective because the questions of use and function were fundamental to evolutionary theory. Evolutionary biologists regularly ask why this or that feature of animal (or plant) developed and what its function might be. If a trait is common in a species, the evolutionary biologist endeavors to discover *why* it exists. Certainly, such logic could also apply

⁴ Even some aesthetes, such as myself, who prefer Bach and Haydn to spectator sports, know that Barry Bonds of the San Francisco Giants holds the record for the number of home runs in a season, at 73, set in the 2001 season and that, in the 1998 season, Mark McGuire of the St. Louis Cardinals set the record at 70 home runs.

to the use of human resource practices.

Two seminal works had a profound effect on my thinking and on the subsequent course of my work. The first was Donald T. Campbell's 1975 article, "On the Conflicts Between Biological and Social Evolution and Between Psychology and Moral Tradition." Campbell argued that concepts from evolutionary theory can apply to social practices. Just as adaptation and speciation in organisms occurred through evolution by natural selection, the development and change of organizations and societies, social customs, and organizational practices can be understood as a process of socio-cultural evolution by natural selection. In socio-cultural evolution, *acquired* characteristics – such as behaviors and values – are socially selected and retained through cultural means, but through a process of variation, selection, and retention similar to that found in the evolution of biological organisms. Campbell also argued that social practices which developed and came to be used through social evolution are often more effective than the practices developed by social scientists. While the great majority of psychologists and social scientists believed that the social and behavioral sciences held the key to improving human happiness and welfare, here was one of the field's most distinguished scholars arguing that many of the traditional customs that evolved over the years – marriage, religion, and moral codes – were better bets.

On purely scientific grounds, [traditional] recipes for living might be regarded as better tested than the best of psychology and psychiatry's speculations on how lives should be lived.

Campbell (1975, p. 1103).

The article was Campbell's presidential address to the American Psychological Association. It is all the more remarkable because of Campbell's reputation as a hard-headed methodologist. He

was well known for his work on experimental design and the application of scientific methodology to social problems. Yet here he was suggesting that there were good *scientific* reasons to believe that social designs resulting from socio-cultural evolution were often more effective than those developed through *a priori* design. As I read more about social evolution, I came increasingly to understand social and organizational practices in Campbell's terms.

The second work that convinced me of the value of this line of thinking for HRM was Boyd and Richerson's (1985) classic book, *Culture and the Evolutionary Process*. They presented a formal theory of social (cultural) evolution. This work helped me to think more deeply about cultural evolution, particularly about the mechanisms by which cultural evolution occurs – such as imitation, trial-and-error learning, and guided variation through the application of science – and the cultural units that vary and are transmitted. Boyd and Richerson present formidable mathematical evidence to support Campbell's thesis. In addition to their treatment of cultural evolution, they introduce the topic of co-evolution, the connection between social and biological evolution.

Those two classic works re-calibrated my compass, and my reading began to uncover scholars in a variety of disciplines who were using an evolutionary perspective to explain a variety of social and technical phenomena. Henry Petroski (1993) wrote a delightful book about the evolution of the pencil. Used by millions of people throughout the world, the pencil is a product of hundreds of years of technical evolution. George Basalla (1988) applied the general paradigm of variation-selection-retention to the development of technology. In the realms of organization theory and economics, the evolutionary perspective has been applied to understand how organizations are created, persist, and ultimately wither away (Hannan & Freeman, 1989; Nelson & Winter, 1982).

In the early 1990s, I encountered the emerging field of evolutionary psychology, and I attended my first meeting of the Human Behavior and Evolutionary Society in 1994.

Evolutionary psychologists argue that many of the behaviors of humans – particularly those related to survival and reproduction – are a product of biological evolution and are instantiated in the brain in psychological mechanisms. That is, just as the nature of human physiology and morphology can be so explained by evolutionary by natural selection, so too can many of our cognitive and behavioral tendencies. This opened up new possibilities for thinking about HRM practices, particularly for understanding forces that drive their appeal (or lack of it) and use (or lack of it.) Evolutionary psychology accounts for the infrequent use of scientific personnel technologies compared to traditional methods: modern selection technologies contain features that are incompatible with humans' evolved preferences for information about other people (Moore, 1996). People prefer to assess and make decisions about people based on information gathered from face-to-face interaction (e.g., an employment interview), or if that is not possible, from narrative information (letters of recommendation, talking to personal references). On the other hand, most people have an aversion to using statistical information to make decisions about people and therefore use scientifically based personnel selection methods less frequently (Terpstra & Rozell, 1997). That the interview continues to be used despite personnel psychologists' protestations that it is unreliable and does not predict job performance well has been called the "black hole" of personnel selection research. However, this is not surprising within the context of evolutionary psychology.

Humans and their information processing demands evolved during the Pleistocene era. During the 1.8 million years of the Pleistocene, people lived and worked in small hunter-gather bands. Under these conditions, the principal sources of information about other people were

face-to-face interaction and narrative dialogue. If we were to compress all of human evolution up to the present into 24 hours, the amount of time that people have used paper-and-pencil tests and statistical information would amount to about the last second of our evolution.⁵ Human cognitive architecture for processing information about people, therefore, is still adapted to the conditions under which *Homo Sapiens* evolved. The change from living in small hunter-gather bands to mass societies has been too recent for our cognitive architecture to adapt biologically. Our neurocognitive systems developed to utilize information about people delivered from other people in the rich form of everyday language and gesture. We are far less likely to be responsive to abstract, scientific, and numerical forms of information – precisely the types of information about people that are common in the modern employment tests – than face-to-face interaction and narrative. An evolutionary perspective was an obvious framework for thinking about the use of HRM practices. Yet, with rare exceptions (Nicholson, 2000; Studd & Gattiker, 1991), there has been little scholarship linking evolutionary psychology to HRM. The evolutionary perspective seemed to offer critical theoretical insight into cracking the problem of use.

I was initially bewildered at the contempt that so many HRM scholars had for traditional practices. However, I came increasingly to see the contempt as a mixture technocratic hubris, vanity, and veiled self-interest. It would be a severe blow to the HRM experts' prestige if they were to admit that traditional practices were as good as their methods. Their unwillingness to look at the possible merits of traditional practices has a religious fervor to it. One I/O psychologist, for example, uses the terms “whim and prejudice” when describing how organizations typically make hiring decisions. I'll never forget a dinner conversation I had with a newly minted Ph.D. some years ago. When the topic turned to hiring practices, we lamented

⁵ Standardized paper and pencil psychological tests emerging within the last 100 years and statistics within about the last 200 years.

the fact that few managers used methods based on research conducted by industrial psychologists. He shook his head and said mockingly that managers still think they can “sniff ‘em out.” He was sarcastically referring to managers’ misguided (in his opinion) belief that they could accurately spot talent without the aid of expert personnel psychologists and their employment tests. That remark was particularly ironic because this newly minted industrial psychologist was at a job interview when he made the comment—where another colleague and I were sniffing him out, so to speak, to assess whether he would be offered a job.

I also found that many of my graduate students in I/O psychology were contemptuous of traditional methods. To counter this attitude, I began posing the following question in my graduate seminars when we studied employment tests:

Assume that a test has been developed to match couples’ interests, backgrounds, and marital compatibility. Studies have shown that couples who score high on the marital compatibility test also score, on average, higher on a measure of marital satisfaction.

Would you be willing to forego traditional dating and courtship, and chose your spouse through the use this standardized marital compatibility test?

Uniformly, their answer was no. They preferred to stick to traditional methods, but they were at a loss to explain why. I also posed a similar question in classes where most of the students were older and likely to have children:

Assume that a test has been developed for selecting baby-sitters, the *Baby-sitting Aptitude Test*. Studies have shown that there is a positive relationship between scores on the baby-sitting aptitude test and baby-sitting performance. Would you be willing to forego personal interviews with baby-sitter applicants, recommendations from other

parents, your “gut instinct” reaction to baby-sitter applicants, and instead hire a baby-sitter, sight-unseen, based solely her test scores?

Again, the answer was uniformly no. Both of these questions are particularly significant. They deal with issues that, on a personal level, involve more important stakes than hiring an employee and trying to predict moderate differences in productivity on the job: mating, reproduction, and the safety of one’s children. Our strong desire to evaluate potential mates and people who care for our children face-to-face is probably hardwired (Buss, 1999).

The hubris of I/O psychologists about the merits of HRM interventions is unjustified for a specific reason: they have no historical record of tangible accomplishment. The historical record is not flattering to HRM, particularly in comparison with the historical record of other technologies developed recently. HRM achievements pale in comparison to technological achievements in transportation, communications, and medicine. Technology, for example, has changed the speed of travel. For most of human history, we could travel only as fast as we could run; we began to travel a bit faster with the use of domestic animals and wind-powered ships. In the 19th century, the speed of transportation increased exponentially. With the invention of the steam-powered trains, people began to travel up to and beyond 50 miles per hour, surpassing the speed and endurance of animal travel. In the 20th century, with the inventions of the automobile and aircraft – and the infrastructures to support them – people would routinely travel at 60 miles per hour on the ground and at 600 miles per hour in the air. Spacecraft now enable humans to travel well over 15,000 miles an hour.

Yet commensurate changes have not occurred in human organizational capabilities. Many of the human resource challenges of centuries past were resolved as well as they are today; in some cases, better. The army of the ancient Roman Empire, in the second century A. D.,

defended an empire of about 50 million people living in the Mediterranean Basin, and did so efficiently. The Roman army excelled on the battlefield. Its *esprit* and excellence came from, as Ferrill (1986) points out, “tactical organization and training.” Along with the 19th century French historian Du Picq, Ferrill argues that the Roman system of tactical organization and discipline was “the most effective in the history of the world” (p. 29). To make a comparison in a way that is meaningful to today’s organizations, we can look at how much organizational output one could purchase using roughly similar units of purchasing power. While comparisons with today’s currency and technology are not equivalent, Arthur Ferrill suggests that a general comparison can be made by comparing the length of time an army could be supported by the fortunes of wealthy individuals:

A recent estimate puts the annual military budget of the Roman Empire in the second century at 450,000,000 to 500,000,000 sesterces....There were *individual* Romans in the first century who had private fortunes of nearly this amount...The wealthiest individuals in the United States today could not come close to supporting the US military for a year!

Ferrill (1986, p. 26; emphasis original.)

If an army in ancient Rome could be one of the most effective and efficient in history – largely because of its administrative, organizational, and training procedures – then what does this say about the “advances” alleged to have been made in human resource management practices in the 20th century? At best, the advances are small; at worst, they are illusory.

This book reflects my belief that the problems of theoretical coherence, utilization, and effectiveness of HRM practices can be best addressed by an evolutionary perspective. I use the term “evolutionary perspective” in a broad sense. This perspective includes the intellectual traditions of socio-cultural evolution and evolutionary psychology. My evolutionary perspective

also incorporates thinking from neo-classical economics, organization theory, and complexity theory. Like species in an ecosystem, HRM practices are embedded in complex organizations, which in turn are embedded in complex environments. HRM actors and activities in organizations can be viewed as elements in complex ecosystems or economies. These ecosystems involve thousands of transactions among individuals, each pursuing their own interests; some of those transactions involve human resource activities. Trainers provide instruction in this or that skill in exchange for some form of compensation related to their self-interest. Employees take training courses because they perceive it in their interest to do so. Many I/O psychologists and HRM academics seem to think that people engage (or *should* engage) in HRM activities for “the good of the organization.” This is equivalent to thinking that ants mulch grass and that worms aerate soil for “the good of the forest,” or that businesses sell Honduran cigars and Kentucky bourbon – or baby diapers or anything else, for that matter – for “the good of the economy or of society.” As Adam Smith theorized – and as later empirical and historical analyses have shown – robust economies are more likely to emerge when individuals are reasonably free to pursue their own interests, within parameters of evolved cultural standards and human proclivities. The same is true of human resource activities and organizations. Robust organizations are more likely to emerge when organizational members are reasonably free to pursue their self-interests, within parameters of evolved organizational standards and human proclivities.⁶

Organizational life does not follow a master plan, driven by a “top-down,” bureaucracy. It evolves through natural (social) selection. Outcomes are not preordained or planned. Prescriptions (means) that are presumed to be *the* “best” way to do things and outcomes (ends)

⁶ For a contemporary view that argues against the idea that people pursuing self-interest will result in the good of the

that are presumed to *the* only appropriate ends regularly produce disaster. Over time, there is no “one best way” to run an organization. Fixed means and ends over the long term result in organizational rigidity at best and totalitarianism at worst. This does not imply relativism. General rules constrain possibilities. They allow freedom within particular parameters and include traditions that evolved in social systems over many years (Burke, 1790/1964; Campbell, 1975), evolved human decision-making rules, preferences, and emotions (Buss, 1995), and processes of exchange, interaction, and emergence in complex organizations (Holland, 1995; Samuelson, 1976). This is akin to the general guidelines that genes follow for constructing protein-based building blocks of the body. They provide parameters and constraints but allow freedom variations within those parameters.⁷ *Level of analysis* is a critical issue here. At what level is variability and independent decision-making functional? At what other levels are they dysfunctional, levels where consistency and third party decision-making become functional? I believe, and argue in this book, that the same general principles that apply to national (or global) economies are relevant to organizations. Excessive centralized control in organizations, excessive centralized planning, excessive restrictions on individual freedom of choice, and third party decision-making are likely to be detrimental to organizational viability just as they are to national and global economies.

Most economists nowadays argue that free markets result in the greatest overall economic prosperity. Although capitalist, liberal democracies are by no means perfect, recent history has shown that they work considerably better (with respect to economic growth, innovation, overall wealth, the distribution of wealth, health, and the distribution of creature comforts) than

whole, see Allen, Stelzner, & Wielkiewicz (1998).

centralized governments with command economies (Fukuyama, 1992). The basic idea is that people pursuing their own interests – free to make, buy, and sell – will produce the best for the whole. Given the diverse needs, innovations, and transactions of thousands or millions of individuals, it is impossible to devise a centralized plan that takes into account and can handle the complexity of all of those interactions. Centrally planned economies cannot efficiently meet the interests of millions of people. It is beyond the capability of a centralized authority to invent, produce, distribute, and price goods and services to meet the needs of a large and diverse population. If this is true at the level of societies, then it is probably also true at the level of complex organizations. If the same basic principles of complexity and evolution show that centralized planning and third-party decision-making are ruinous to modern nation states, they are also probably ruinous to large, complex organizations.

This book is an integrative and, to some extent, a speculative work. My aims are to argue that the widely accepted mechanical perspective in HRM – which assumes that interventions designed by experts will produce precise, intended effects – has outlived its usefulness; to suggest that an evolutionary perspective offers a more realistic and potentially more useful approach to thinking about and designing HRM practices; and to develop some preliminary practical applications of an evolutionary approach to HRM. There is no shortage of theory and basic research with an evolutionary flavor to draw from in psychology, economics, and organization studies. Alas, this is not the case when it comes to practical applications. There is little work that theorizes about or tests hypotheses about *applications* derived from socio-cultural evolution or evolutionary psychology (for exceptions see Browne, 2002; Colarelli, 1996a, b;

⁷ Other than constraints on fair trade, safe working conditions and the like, the rule of law does not provide detailed rules on who can or cannot engage in commerce, how a business should be run, what products it produces, how it manages its employees and so on. With broad guidelines, people are more or less free to engage in whatever commercial activities they choose.

Nicholson, 1997, 2000; Posner, 1992). This is more evident with practical applications of evolutionary thinking to HRM. There are relatively few of us – so far, at least – laboring in this vineyard. However, I am optimistic. If the applications of the life sciences in other areas are any indication, the tide will turn. It is just a matter of time. For now, though, more tinkering, research, and trail-and-error will be needed to find the evolutionary-based HRM practices that are most helpful.

When I initially set out to write the book, I hoped to analyze and suggest new practices for a wide range of HRM practices—hiring, training, performance appraisal, supervisory practices, work group and team management, and organizational design. However, as I began writing, it became apparent that this would take much longer than I had expected. So I narrowed my focus to cover more intensively a smaller number of topics. The first two chapters of the book cover the theoretical arguments—the mechanistic model of HRM and the theoretical underpinnings of the evolutionary approach. For readers who want to get directly to the applications of the evolutionary perspective of HRM, they should skim chapters 1 and 2 to get some basic background and then proceed directly to chapter 3. Chapters 3, 4, and 5 address the practical problems and practices of personnel selection and training. Although they can serve as paradigms for evolutionary approaches to other areas of HRM, an exposition of other areas must await further books. For now my hope is that this book opens up new ways of thinking about HRM and stimulates the development and use of HRM interventions that are in tune with the evolutionary nature and processes in people and social systems.

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