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Leading students through the management theory jungle by following the path of the seminal theorists

The path of the
seminal theorists

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A paradigmatic approach

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Abstract *The "management theory jungle" described by Koontz appears to be overrun with even more theoretical undergrowth than when he wrote his seminal critiques of the state of this body of knowledge more than 40 years ago. This article endeavors to provide a clear and fairly narrow path through that jungle, using the seminal thinkers in management as our guides. It recommends adopting a paradigm-based approach to the management discipline rather than struggling through the jungle of multiple theories and "schools of thought". This approach satisfies the criteria set forth by Koontz to bring much needed clarification to the discipline of management. Specifically this approach: restricts the discipline to a manageable size; uses its simple and straightforward terminology; and gives direction to teaching and research. The article concludes with a discussion of some ideas on how to teach management using this paradigmatic approach.*

For me, teaching a survey course in management and organizations becomes more challenging each year for at least three reasons. First, as academics, the amount of knowledge that we can draw on with regard to people, organizations and managerial activities grows faster than most of us can absorb. Second, the gap between academics and practicing managers appears to be growing because of this information overload. As academics we struggle with transforming more and more information into theory and empirical research (which takes time) but practitioners demand quick and effective solutions to the daily problems of dealing with increasingly complex and dynamic environments. Third, we now teach to an ever more diverse student body across a number of dimensions including (but not limited to) ethnicity, age, work experience and physical location. Given this state of affairs, is there a way we can incorporate more and more knowledge into theories that are both useful to practicing managers and teachable/relevant/meaningful to an increasingly diverse audience of management students in a fast-changing, modern business world?

The surprising answer to that question came to me a number of years ago in the form of management history – deal with the present and future by learning from the

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past. Management history does not receive much attention in current textbooks, a chapter at best (e.g. Griffin, 2002; Kinicki and Williams, 2003) or just incidental mention (e.g. Williams, 2000). Perhaps one reason for this lack of attention is that the seminal works are presented only as separate theories (or “schools of thought”), that, while interesting, are no longer relevant in our modern, dynamic and complex managerial world. There is nothing to connect the work of the seminal authors to contemporary theories; no intellectual “glue” that binds those ideas that have withstood the test of time to the more recent conceptions (e.g. self-directed work groups, employee participation, total quality management (TQM)) in both textbooks and practitioner-oriented books (e.g. *Who Moved My Cheese*, *The One Minute Manager*, etc. – look at the *Wall Street Journal* or *New York Times* “Best Seller” list for the most recent examples).

Certainly we know much more about organizations and how to manage them than we did 200 years ago, but the result has been only a thickening of the management theory jungle criticized by Koontz (1961). On the other hand, management as a codified body of knowledge is still in its infancy – in what Kuhn (1970) would call the “pre-paradigmatic stage”. So for me, the question arose: are there some fundamental ideas, some principles akin to “natural laws” in the “hard” sciences that are as important and relevant now as when they were first discovered? If so, perhaps the body of knowledge we call management has matured to the point where we can adopt a paradigm-based view of the discipline like the “hard” sciences. After all, the Wright Flyer and the space shuttle represent drastic changes in technology and engineering, but both are still governed by the laws of physics. Likewise, modern manufacturing is nothing like it was in the early 1900s. Yet the “Therblig” invented by Frank and Lillian Gilbreth more than 100 years ago is still found in modern operations management textbooks.

Thus, using the analogy of “natural law”, I sought to identify a set of underlying assumptions about people and organizations that could be gleaned from the literature using deductive logic. What is offered here is a relatively straightforward (and familiar) typology of proposed paradigms of management (classical, behavioral, and systems) along with six underlying assumptions: unit of analysis, source of motivation, view of human nature, focus of managerial attention, ultimate organizational objective, and role of the manager. These assumptions were deduced from my years of study of management history and the seminal authors, and a formal content analysis of the seminal literature.

To begin, I will review how we wandered into the management theory jungle, and why the current state of the discipline (using “schools of thought”) does not help us overcome the three challenges mentioned earlier. I will then propose a path out of the jungle by explaining how I derived my assumptions for the three paradigms. From there, I will present a detailed explanation of the paradigms and the specific underlying assumptions of each. This will demonstrate how a paradigmatic approach to management overcomes both the obstacles mentioned earlier and why it conforms to the criteria articulated by Harold Koontz more than 40 years ago. I conclude with some summary comments and teaching suggestions.

Into the management theory jungle

In 1961, Koontz addressed the issue of a “flood” of management theory “with a wave of great differences and apparent confusion” (Koontz, 1961, p. 174) in his widely

referenced work, *The Management Theory Jungle*. Koontz's concern was in the proliferation of major "schools" of management theory and the tendency to downgrade earlier works to defend the originality of their "new" or "distinct" approach. Koontz (1961) divided the major schools of management theory into six main groups: the management process school, the empirical school, the human behavior school, the social system school, the decision theory school, and the mathematics school. This situation is symptomatic of a body of knowledge without a paradigm to guide its research, and it is consistent with Kuhn's (1970, p. 15) observation that "... it remains an open question what parts of social science have yet acquired such paradigms at all".

In 1980, Koontz (1980, p. 175) reevaluated the situation and determined that major schools had increased from six to at least 11, stating "the jungle appears to have become even more dense and impenetrable". His conclusion still related to the three challenges mentioned earlier as he determined: "These varying schools, or approaches (as they are better called), led to a jungle of confusing thought, theory, and advice to practicing managers" (Koontz, 1980, p. 175). This newer "Jungle" article identified five major sources of confusion: "varying meanings given to common words ..., differences in defining management as a body of knowledge, ... widespread casting aside of the findings of early practicing managers ..., misunderstanding the nature and role of principles and theory, and the inability or unwillingness of many 'experts' to understand each other" (Koontz, 1980, p. 175). Clearly, his conclusion was that not much progress had been made by 1980. I would argue that there was not much help in meeting new challenges either.

As mentioned earlier, the first challenge facing academics is that of trying to teach management to undergraduate students with no background in business or experience in formal organizations. Using a typology of six or 11 approaches is confusing, cumbersome, and simply not very useful. Students cannot help but wonder which approach or theory is the one that will serve them best in a managerial career. Furthermore, as new ideas and approaches come to the forefront, seemingly unrelated to what has come before, the amount of material that has to be taught becomes unwieldy.

The second challenge is for the practicing manager. The situation there is even more confusing as more and more "popular" books about management hit the best seller lists. While many of these books are well written and well-grounded in theory, they often tell managers more about "how" they should solve problems (the quick answer) rather than "why" those solutions work (which comes from a familiarity with the underlying theory and empirical evidence). Thus a manager may intuitively want to become a "Theory Y manager" because he/she is convinced that it is a more effective way to manage. But if the manager has "Theory X" assumptions about people, and does not understand the importance of the assumptions in Douglas McGregor's theory, then the manager probably will not be effective.

Finally, as we deal with increasingly diverse student bodies, we need to recognize some generalities in the management literature that would be relevant and meaningful to young and old, to those with or without organizational experience, and to those from many different cultures. Getting back to the notion of "natural laws" mentioned earlier, have we learned some things about people and organizations that are generalizable across all these dimensions? A paradigmatic approach to the discipline of management would supply the answers to those questions.

The ideas presented in this paper are my way of dealing with these three challenges by viewing the management literature through the lens of a paradigm rather than multiple lenses of competing “schools of thought”. In keeping with the plea of Koontz (1961) to bring clarification to the discipline of management, my framework has the following distinct attributes, which he delineated in his original article. First, it is designed to restrict the discipline to a manageable size, while recognizing that management theory is part of and draws from a larger body of knowledge. Second, the terminology used in the framework is intentionally simple and straightforward to avoid unnecessary jargon or semantics problems for the practitioner and/or the scholar. Finally, it gives direction to teaching and research whether the focus is on the seminal works or on more recent conceptions such as transformational leadership.

The path out of the jungle

I propose that the body of knowledge known as management can best be described as consisting of three paradigms – classical, behavioral and systems. These terms are not new in management textbooks such as those mentioned earlier. What is new is using the terms to describe paradigms rather than theories or “schools of thought.” For example, most textbooks mention the classical, behavioral and systems “schools of thought” and then refer to specific theories within them. My reading of the original works of these authors suggested to me that there were two major flaws in this approach.

First, in many texts the main difference between the “schools of thought” was presented as simply chronological. That is, classical theories emerged from the late 1800s to the 1920s, followed by the human relations movement launched from the Hawthorne studies in the 1930s and then systems theory and quantitative schools coming to fruition after the Second World War. The implication from this approach is that classical theories are the “oldest” and thus the most outdated. Then come the human relations theories, spanning the time from the Great Depression and Hawthorne, maturing into the behavioral theories of the industrial psychologists of the 1950s (e.g. McGregor, Herzberg, Alderfer) and then blossoming into the discipline of organization behavior. And finally, the textbooks suggest that the most contemporary, and by implication, the most useful approach is systems theory.

The second flaw in the “schools of thought” approach is the notion that all classical theories were based on task-oriented, “Theory X”, or even anti-worker kind of ideas. This is contrasted with the people-oriented, “Theory Y” and “pro-worker” ideas of the human relations school of thought. Unfortunately, a careful reading of the seminal authors from both these “schools of thought” reveals that this is a false dichotomy – more on this later.

My personal study of management history, influenced in large part by the work of Daniel Wren and my exposure to the work of Thomas Kuhn from my PhD days led me to examine these management “schools of thought” through the lens of paradigms. In order to do that, I had to identify specific assumptions (if there were any) that would allow each “school of thought” (defined chronologically or as a task/people dichotomy) to be transformed (or at least viewed) as a paradigm, in the Kuhnian sense by identifying underlying assumptions.

The six assumptions underlying each paradigm were deduced by identifying issues and attributes about people and organizations that seemed to be common to all three

paradigms (just as paradigms in physics deal with the common attributes of motion and mass). And, most importantly, when these assumptions are made explicit, they serve to distinguish one paradigm from another (e.g. the difference between Newtonian and quantum physics). My original list of assumptions was actually much longer than the one presented here, and that list was trimmed down to six after I conducted an extensive content analysis of the original source works of the seminal authors. A brief summary of the findings of that qualitative analysis can be found in the Tables I-III.

I will interject a caveat here akin to the one Fayol (1949) made in his opening paragraph of Chapter 4, "General principles of management", in *General and Industrial Management*. To wit, these six assumptions are offered to help us understand the different paradigms of management that have emerged over the past two centuries. They are not all-inclusive, nor are they the only way to think about the discipline. Rather, they are the attributes that provide a framework for thinking about management in terms of paradigms rather a countless number of individual theories and "schools of thought" with no intellectual glue binding any of them together. This is important for many reasons, but the most important one may be how we advance the body of knowledge called "management" from here on because:

In the absence of a paradigm or some candidate for paradigm, all of the facts that could possibly pertain to the development of a given science are likely to seem equally relevant. As a result, early fact-gathering is a far more nearly random activity than the one subsequent scientific development makes familiar (Kuhn, 1970, p. 15).

The six fundamental assumptions (unit of analysis, source of motivation, human nature, focus of managerial attention, ultimate objective, and role of the manager) are presented in Table IV along with an abbreviated (i.e. representative, but certainly not inclusive) list of the most prominent authors from each paradigm.

The classical paradigm

The term "classical theory" is often used (incorrectly) as a synonym for scientific management and the work of Frederick Winslow Taylor. Chronologically, the classical paradigm can be thought of as capturing the earliest musings about management in the 1850s from Daniel McCallum trying to understand how to best run a 500-mile railroad, to Josiah Wedgewood struggling to construct a useable cost accounting system. In manufacturing, some of the earliest thinking on efficiency can be traced to Charles Babbage in Great Britain, Charles Dupin in France and later, Frederick Taylor here in the USA. Many of those ideas have not only withstood the test of time (e.g. the "therblig" is still mentioned in modern operations management text), but also many contemporary ones have evolved. For example, the technique of goal setting can be traced back to scientific management and Taylor's notion of the differential piece rate (Wren, 1994). Fayol (1949) presented the first comprehensive theory of management in his seminal *General and Industrial Management*. Most management textbooks introduce the student to Fayol's much maligned 14 principles. However, not all students understand that the "managerial functions" approach used for that management text is taken from chapter titles and subjects in Fayol's book (i.e. planning, organizing, leading, coordinating, etc.). Most of the authors in the early classical period were educated in engineering and science. Thus one sees the application of scientific methods (and some would argue, linear thinking) in much of that seminal literature. There is still much to be found in the modern operations

Table I.
Key ideas of classical
authors

	Frederick W. Taylor	Henri Fayol
Unit of analysis	Pay men, not positions. No profit sharing. The notion of "soldiering"	Principle No. 1: Division of work and No. 7: Remuneration of personnel: pay individuals. No profit sharing
Source of motivation	Differential piece rate. Notion of a "high priced man" and first-class worker	Pay workers with time rates, job rates or piece rates
Human nature	Scientific selection of workers. Workers respond to training and do as they are told to maximize pay	Principle No. 11: Order. There is a natural order that pervades nature. Manager should set a good example for workers to follow
Focus of managerial attention	User of the scientific method and time/motion studies. Managers design work. Workers do exactly what they are told	Eliminate or retrain the incompetent worker. Technical ability is most important for workers
Ultimate objective	He quotes FDR that "national efficiency" is the country's greatest concern	Chapter 5 on planning (efficient use of resources) and control. Principle No. 5: Unity of direction
Role of the manager	Managers design tasks, plan out the daily work schedules, and train the workers how best to perform the tasks	The managerial functions are planning, organizing, commanding, coordinating and controlling

	Elton Mayo	Mary Parker Follett
Unit of analysis	In industry, administration deals with well-knit human groups and not a horde of individuals	There is no such thing as the "individual." Individuals are created by reciprocal interplay
Source of motivation	Man's desire to be continuously associated in work with his fellows is a strong, if not the strongest, human characteristic	Duty is never to individuals, only to the whole. Industrial organization must be based on the idea of community. Freedom and self-control come from the group
Human nature	Human collaboration in work has always depended on the evolution of a non-logical social code which regulates the relations between persons and their attitudes towards one another	Participation, not consent, is the right basis for all social relations. Human response is always to a relation
Focus of managerial attention	If an individual cannot work with sufficient understanding of his work situation, then, unlike a machine, he can only work against opposition from himself	The fundamental organizational problem is the building and maintenance of dynamic yet harmonious human relations
Ultimate objective	It is this situation (Hawthorne) – a company committed to justice and humanity in its dealings with workers – that makes morale high	The chief function of business is to give an opportunity for individual development through a better organization of human relationships
Role of the manager	The communication system in Company C (low absenteeism) was built on patience, listening and avoiding emotional upsets. Foremen had technical assistants so they could devote more time to team leadership	Loyalty is to the work, not the company. Achieve integration. The job, not formal position, is the source of authority. Authority is a process

Table II.
Key ideas of behavioral authors

management field, and management in general (e.g. TQM) that is rightly labeled as "classical".

Turning to the first column in Table IV, the classical paradigm focuses on the individual as the unit of analysis. Taylor's "differential piece rate" pay system was a bonus system designed to pay more to those individual workers who could produce above the "standard" rate. More recently, the well-known practice of goal setting is used primarily for individual incentives, as is management by objectives (MBO), a technique popularized in the 1970s but still used today. While recognizing that piece rates and goal setting can be used in a group context, most classical thinkers would still focus on the individual.

The classical theorists were also famous (or infamous, depending on one's point of view) for their emphasis on economic incentives. Given the state of American culture and the economy at the time of the seminal writers, this is not surprising. Immigrants flocked to this country (post-industrial revolution) to take advantage of economic opportunities that were not available to them in their homelands. While early industrial America provided a wealth of opportunity, it also provided an opportunity for less than scrupulous businessmen to take advantage of the immigrant work ethic. Unfortunately, much of classical theory has been presented in textbooks in a

Table III.
Key ideas of systems
authors

	Katz and Kahn	Kast and Rosenzweig
Unit of analysis	The theoretical concepts (about organizations) should begin with input, output and functioning of the organization as a system	A system is composed of inter-related parts or elements. Every system has at least two elements and the elements are interconnected
Source of motivation	The importation of energy to arrest entropy operates to maintain some constancy in energy exchange so that open systems that survive are characterized by a steady state	That living system which best adapts to its environment prospers and survives. But survival is not the only measure of organizational effectiveness
Human nature	All social systems consist of the patterned activities of a number of individuals which are complementary or interdependent, enduring, repeated and bounded in space and time	Social organizations do not occur naturally in nature; they are contrived by man. They have structure; but it is the structure of events rather than of physical components, and it cannot be separated from the processes of the system
Focus of managerial attention	Systems theory is concerned with problems of relationships, of structure and of interdependence rather than the constant attributes of objects	The contingency (systems) view seeks to understand the inter-relationships within and among subsystems as well as between the organization and its external environment
Ultimate objective	The stability (of a system) is dependent upon the energetic input, transformation of energies and the resulting energetic output	The open system is a transformation model. The system is in a dynamic relationship with its environment, receiving inputs and transforming them into outputs based on both positive and negative feedback
Role of the manager	It is events rather than things that are structured, so that social structure is a dynamic concept. Activities are structured so that they comprise a unity in their closure	Many managers use a systems approach intuitively and implicitly. The art of management depends on a reasonable success rate for actions in a probabilistic environment

	Classical	Behavioral	Systems
Prominent authors	Taylor, Fayol, Gantt, and the Gilbreths	Mayo, Follett, Roethlisberger, and McGregor	Katz and Kahn, Kast and Rosenzweig, Thompson
Unit of analysis	Individual	Work group	System/subsystem
Source of motivation	Economic needs	Social needs	Homeostasis survival
Human nature	Rational	Emotional	Natural law
Focus of managerial attention	Observable behavior	Cognition	Inter-relatedness
Ultimate objective	Efficiency	Social justice	Transformation of inputs to outputs
Role of the manager	Planner-trainer	Facilitator team builder	Synthesizer-integrator

Table IV.
Underlying assumptions
of the three management
paradigms

pejorative manner because of the use of monetary incentives to motivate the workers. Typical of the attacks on Taylor is the often quoted (though mythical) conversation about handling pig iron with the Pennsylvania Dutchman "Schmidt" to whom "a penny seemed about the size of cart-wheel" (Taylor, 1967, p. 44). However, a careful reading of the seminal writers reveals much that is useful about motivating people with economic incentives using newer techniques such as "well pay" (Luthans and Kreitner, 1985).

Why do people respond to economic incentives? It is because human nature is seen as fundamentally rational. This is the underlying assumption of much of economics going back to Adam Smith, and it surfaces as the seminal writers tried to wrestle with the problems of how to run large, complex organizations. Beyond that, most of the seminal authors (e.g. Taylor, Fayol, the Gilbreths, and Gantt) were all from engineering backgrounds. The clarity of the scientific method along with the certainty of immutable mathematical formulae made it an easy transition to view the average worker as a rational person, regardless of education or literacy. This is why training (the second step in Scientific Management) coupled with the differential piece rate was so important. The workmen would do as they were told, as long as they could see the connection between what they did and the size of their paycheck. Likewise, one reason that Henri Fayol rejected "profit-sharing" as a form of compensation for those at the lower levels of the organization was the inability (he thought) of the workers to make a connection between daily work and profits.

Given the emphasis on training and the scientific method employed by the seminal writers, it is not surprising that they would hold efficiency in the highest regard. Recall that the large complex organization is an entirely new phenomenon in the world of commerce after the industrial revolution. The biggest challenge facing owners and managers was simply how to run a large organization efficiently because there was not a codified body of knowledge on which to draw. Clearly, Fayol took his cue from the military and the Catholic Church in coming to grips with how to run the French conglomerate Commentry-Fourchambault Company profitably, as evidenced by the terminology used throughout the chapter on his 14 principles. However, for those on the shop floor, the application of engineering principles was simply the starting point in a trial and error process to increase productivity of the individual worker.

One can infer from the seminal writers that the manager's main job was to design work and then be sure it was done correctly. Thus, the focus of the manager on the shop floor was on the behavior of the worker. Taylor took this idea to an extreme with his notion of the "functional foreman." In this push for even more efficiency, Taylor envisioned additional supervisors who were essentially work specialists who could assist the general foreman in ensuring the work was carried out properly. This violation of "unity of command" was criticized by many, including Fayol. Thus, the role of the manager in classical theory is one of planner and trainer. Because of his superior knowledge and higher education, the manager was to design the best way to accomplish a task – be that shoveling coal (Taylor) or laying bricks (Gilbreth), plan out the day's work, and supervise the worker to ensure it was carried out with maximum efficiency. Note that Taylor was well aware of the counterproductive effects of fatigue, and stressed throughout his books the importance of the workman resting when being told to rest by the supervisor. That too was part of maximizing efficiency.

In summary, the classical paradigm, which includes the first comprehensive theory of management (Fayol), has a distinctive, unique view of the managerial and organizational world. Like its intellectual competitors, it has its strengths and weaknesses and if these powerful ideas were put to use by unscrupulous or dishonest managers, the effect on the workers and the organization at large would be deleterious (as it often was).

The behavioral paradigm

Most textbooks mark the start of the behavioral paradigm with the Hawthorne experiments, the writings of Elton Mayo and Fritz Roethlisberger and the advent of "human relations" theory. However, the intellectual roots of this paradigm go back to about 1800 and the ideas of British utopian and entrepreneur Robert Owen who rebelled against the excesses of the industrial revolution, especially child labor. In the early 1900s, Mary Parker Follett put forth the idea of the power of the group, "followership" and participation (in our modern sense) in formal organizations. At about the same time, many large companies (e.g. National Cash Register and H.J. Heinz) were establishing an office of social (or welfare) secretary to address issues of worker betterment, health and safety. In the world of academe, William Hearn of Melbourne, Australia put forth an idea about a hierarchy of human needs in 1863, while Hugo Munsterberg launched the field of industrial psychology at Harvard in the 1890s (Wren, 1994). Still, Mayo's and Roethlisberger's many manuscripts and books together reveal the lessons of Hawthorne and are presented in textbooks as the foundation for "human relations" theory. Today, the behavioral school of thought has matured from that humble beginning to include a wealth of ideas and theories in the fields of industrial psychology, human resource management and organization behavior.

One hallmark of the behavioral approach is the shift in the unit of analysis from the individual to the group. Here, the work of Mary Parker Follett was more influential in Europe than the USA, but none the less important from an academic perspective. Certainly, more of the contemporary writings in participatory management and work teams reflect this emphasis. The other hallmark is the viewing of worker motivation in terms of social instead of economic needs. Here, the work of Mayo (1933) and his unfinished trilogy critiquing industrial America during the era of the Great Depression is viewed as an intellectual landmark. The power of using social needs as a motivating

factor runs throughout the behavioral school from Elton Mayo to the most recent theoretical and empirical studies on work groups and participatory management practices.

The influence of Elton Mayo is again seen in the view of human nature underlying the behavioral paradigm – people are first and foremost driven by emotion, not reason. The open ended interviews recounted in *The Human Problems of an Industrial Civilization* (Mayo, 1933) dramatically highlighted how many workers were more interested in maintaining their personal relationships with co-workers than with accepting a promotion which would benefit them financially, but sever that relationship. The affective side of human nature was also revealed in the “bank wiring room” experiment at Hawthorne, run by Clair Turner of MIT and W. Lloyd Warner of Harvard. This experiment led to the discovery of the informal work group (or at least its pervasive influence) in formal organizations (Wren, 1994).

In the eyes of Owen, and later Mayo, the industrial organization becomes more than a profit-making enterprise – it becomes a vehicle for social change. The workplace becomes the vehicle for administering social justice that was lacking in the larger society. Keeping in mind that Owen was writing in Great Britain in the early days of the industrial revolution and Mayo during the Great Depression, one can understand how this idea of social justice moves to become the ultimate objective for those in the behavioral school of thought. Though the calls for social justice may not be as flamboyant now as in those more depressed economic times, we still see the influence today in ideas such as worker participation in corporate governance, the modern labor movement and the embracing of the “diversity” issue by contemporary organizations.

What the manager looks for and at, and the primary role of the manager are also very different in this paradigm. The impact of industrial psychology is seen in the idea that the manager needs to be concerned with cognition – what motivates workers and why. The chapters on motivation theory, even in introductory management texts, are crammed with a number of content and process theories to try to help managers understand how to deal with employees at a cerebral level, rather than simply ensuring they perform their tasks as they should. Thus, the manager moves into a role of facilitator and team builder to enhance both worker job satisfaction and productivity, rather than simply focusing on the latter.

The systems paradigm

Chester Barnard is often credited for bringing the term “systems” to the management literature (Kast and Rosenzweig, 1972) with his definition of an organization as “a system of consciously coordinated activities or forces of two or more persons” (Barnard, 1968, p. 81). But, this most recent management paradigm actually surfaced during the Second World War as an outgrowth of mathematicians trying to solve perplexing problems with radar and antiaircraft gunnery systems. Systems theory as we know it today was based on a key concept that came out of that Second World War research – that of cybernetics. Coined by mathematician Norbert Wiener, cybernetics rests on the idea of self-regulation – the use of continuous feedback to make corrections and guide a mechanical or animal system to adapt to its changing environment. The easiest analogy is the automatic pilot on modern aircraft. The course, altitude and speed of the airplane are constantly being changed to adjust to changes in wind speeds and atmospheric conditions to guide the plane on a straight

line from point to point. Wiener applied this notion to organizations in his 1948 book, *Cybernetics* (Wiener, 1948), with a deceptively simple model showing inputs transformed (processed) into outputs with a feedback loop for corrections (Shafritz and Ott, 2001).

This idea was soon combined with the work of Ludwig von Bertalanffy, who, in 1951, argued for the idea of a cross-disciplinary, general theoretical framework that could help explain relationships in all branches of science. He termed this idea “general systems theory” and noted that scientific disciplines rested on the assumptions of wholeness, equilibrium and interaction with the external environment (Wren, 1994). The grounding of modern organization theory in the systems paradigm was completed with two other seminal books – *The Social Psychology of Organizations* by Katz and Kahn (1966), and Thompson’s (1967) *Organizations in Action*. The impact of these authors has been profound. So much so, that nearly every textbook in management, strategy, organization theory and/or behavior since then has boldly proclaimed in its introduction that it adopts “an open systems perspective.”

The systems paradigm takes a third, unique perspective on management and organizations. The unit of analysis is the system (or subsystem). The distinction between a “system” and an “organization” in the classical or behavioral sense is important because the former rests on the idea of wholeness while the latter focuses on individual components. This distinction is important, because earlier thinking about management, grounded in the scientific method, relied on understanding organizations through analysis – looking at the parts and seeing how they fit together. The systems paradigm rejects that (engineering-based) notion, and relies on understanding through synthesis – looking at the organization as a unified, yet interconnected entity that interacts with its external environment. In modern parlance, the classical and behavioral paradigms can be described as closed systems because of their inward focus. The systems paradigm views organizations as open systems in constant interaction with the external environment.

Using terms like “motivation” and “human nature” may seem nonsensical when talking about an entity like an organization. However, the terms do make sense when talking about how managers act and what they assume if they view the organization as an open system. To wit, the ultimate goal of the organization is equilibrium – staying “in balance” (i.e. adapting) to the external environment. Decisions on everything from product lines to acquisitions and divestitures are made with the idea of seeking an optimal “fit” with the external environment. Likewise, people are viewed as neither rational nor emotional, but rather as a complex mix of both, subject to “natural law” not only as defined by physical scientists, but also by philosophers of the Age of Enlightenment (e.g. John Locke). The human condition is one of complexity and constant change, but yet with some measure of predictability using tools of science, engineering and psychology.

The fundamental purpose of the organization is the transformation of inputs into outputs as efficiently as possible. The difference between systems and the other two paradigms is that transformation takes the concept to the level of the entire organization, and not just the people in it. That is, the transformation process includes all parts of the organization – human, technology, information, etc.

The focus of the manager (implicit in an open systems perspective) should be on interrelationships, both within subsystems and between the system and the external

environment. Clearly, no manager can predict how changes made internally will impact the organization from within and from outside. However, it is critical that managers think in terms of interrelationships, inter-relatedness and even unintended consequences. This requires a holistic perspective, looking for patterns and trying to make sense of what often seems like organizational chaos. Likewise, the manager takes on entirely new roles. One role is that of synthesizer – helping others see the “big picture,” explaining trends, and articulating a vision for the organization. Another role, that of integrator, means doing those kinds of things that keep people focused on the strategic goal, and helping them see how their daily activities contribute toward achieving those goals. Implicit in both roles are the ideas of coordination and communication, and acting in a “cybernetic” sense (literally) as the organization’s steersman.

Discussion

As was stated earlier, I decided to confront the three contemporary challenges facing management scholars by looking to the past (i.e. the seminal writers). I reached this conclusion not because I believe that “there is nothing new under the sun”. But rather because it seemed to me that there were a number timeless lessons learned that seemed to resurface again and again. In the words of Alex de Tocqueville “History is a gallery of pictures in which there are few originals and many copies” (www.brainyquote.com/quotes/authors/a/alexis_de_tocqueville.html). For example, most contemporary theories about management both here and in other cultures still have roots that can be traced back to the seminal writers. Space limitations prevent me from exploring each, but recall one particularly popular one. There was much written about “Japanese management” in the 1970s and 1980s and its principles of egalitarianism, worker participation and consensual decision making (see Nonaka and Johansson (1985) for an excellent summary). Yet these same fundamental principles were articulated by Mary Parker Follett in the 1920s (see Graham, 1995, Chs 10, 9 and 5 respectively). While theories and practices have been advanced and refined to meet the demands of an ever-changing external environment, the principles on which they are based must have withstood the test of time if the new theory is to be valid (or even useful) to meet new challenges. Our knowledge of management and organizations has increased exponentially since the Second World War. I contend that it has progressed enough to become a mature science, and for it to progress further, it must be paradigm-based (Kuhn, 1970). To become paradigm-based, the fundamental assumptions must be articulated and made explicit.

Teaching management from a paradigm-based perspective

I would argue that there are two main pitfalls in teaching management from this paradigm-based, history/fundamentals type of approach. First, is simply getting it right – that means reading the original works of the seminal thinkers and not relying on someone else’s interpretation of them. As mentioned earlier, many introductory texts in management contain only one brief chapter on the foundations of the discipline and the history surrounding it. Sometimes information in the text is wrong (e.g. putting Elton Mayo and the Harvard research team at the Hawthorne plant during the lighting experiments) or at least misleading (e.g. the contention that Frederick Taylor despised the working man and hated labor unions). If nothing else, I believe it is important for

the instructor to have read at least portions of the original works of the seminal thinkers.

For example, consider the following quotes from Taylor's *Scientific Management*. "The principle object of management should be to secure the maximum prosperity for the employer, coupled with the maximum prosperity for each employee (Taylor, 1967, p. 9). With regard to the workmen, he said:

So that, under the plan which individualizes each workman, instead of brutally discharging the man or lowering his wages for failing to make good at once, he is given the time and the help required to make him proficient at his present job, or he is shifted to another class of work for which he is either mentally or physically better suited. All of this requires the kindly cooperation of the management, and involves much more elaborate organization and system than the old-fashioned herding of men in large gangs (Taylor, 1967, p. 70).

Taylor also understood how his methods could be used to exploit the workman if his underlying philosophy of cooperation between management and labor (what he termed the "mental revolution") was abandoned:

The history of the development of scientific management up to date, however, calls for a word of warning. The mechanism of management must not be mistaken for its essence, or underlying philosophy. Precisely the same mechanism will in one case produce disastrous results and in another the most beneficent. The same mechanism which will produce the finest results when made to serve the underlying principles of scientific management, will lead to failure and disaster if accompanied by the wrong spirit in those who are using it (Taylor, 1967, pp. 128-9).

I chose to highlight Frederick Taylor because he seems to be portrayed in such a negative light in nearly every textbook that one has to wonder if the authors of the textbooks ever read his original work. Stating what may be obvious, there is much to be learned from any of the seminal works if one has not read them in the original. Fayol's ideas on planning (Fayol, 1949) and Follett's thoughts on participation (Graham, 1995; Parker, 1984) are as relevant today as ever, and perhaps even articulated more elegantly than the "how to" management best sellers of the present time.

Does this mean that every management professor must read every one of the seminal works? Certainly not, and there are at least two ways to gain exposure to those ideas without losing something in the "textbook translation" however accurate. First, some of the seminal books are quite short and easy to read. The modern reprint of Taylor's (1967) *The Principles of Scientific Management* is only 144 pages long and is a fascinating read. Some books like Fayol's (1949) *General and Industrial Management* although short (just over 100 pages) are out of print but can be found in most libraries. Second, there are some excellent summary texts such as Wren's (1994) *Evolution of Management Thought* that are scrupulously documented and draw entirely on original source materials. There are also some very good anthologies that are comprised of individual articles or important chapters from books that will also allow one to explore the seminal works in their original form. My personal favorite is *Classics of Organization Theory* by Shafritz and Ott (2001).

The second pitfall of this approach to teaching management is in failing to treat these paradigms as mutually exclusive in that they have very different fundamental assumptions about people and organizations. I use the term "mutually exclusive" in the

same way Weber talked about his model of bureaucracy as an “ideal type”. Clearly, the classical writers well understood that human nature has an emotional side and behavioral theorists understand that people do respond to economic incentives. However, discussing each as a paradigm means that each needs to be cast as a fundamentally different perspective about management and organization, and thus as a fundamentally different way to understand, to research and to make predictions. Indeed, one could argue that the classical paradigm dominates thinking in operations management, the behavioral in organization behavior and the systems in organization theory. By doing this, one can get into some lively discussions with students about the merits and pitfalls of each and the validity of using each in a particular situation. This avoids endless discussions about numerous schools of thoughts and even more individual theories that seem to have little in common, a criticism made by Koontz (1961, 1980) but one that is still valid today.

Another way to think about these paradigms is to think of them as profiles or descriptions of three different managerial styles. Different managers will be more comfortable with one set of assumptions as opposed to another, and thus tend to rely on that set of assumptions as the basis for decision making. But remember that “mutually exclusive” does not mean “incompatible”. Instead, it means that a manager can draw on and employ theories from any and all of the three paradigms when appropriate. For example, a manager may choose to try participative management practices even though he/she really believes people are motivated primarily by monetary incentives. That is the essence of a contingency approach to managing – using the right conceptual tools in the appropriate situations. I have found that discussing these assumptions helps my students come to a much deeper understanding of how and why various ideas and theories work well (or not) for them in various contexts.

There is one caveat that may also prove helpful to those taking this historical approach for the first time. That is making value judgments about each paradigm, especially without regard for the historical context from whence they came. The ideas are powerful – that is why they have withstood the test of time. I warn my students that the language used in these early writings could be deemed “sexist” by today’s standards. But using the term “workman” at the turn of the century with regard to a steel mill was perfectly natural – there were no women on the shop floor at Bethlehem Steel. Likewise, much of the power of economic incentives was driven by the quest of immigrants (who dominated the work force) to forge a better life for themselves and their families. That is why they left their native lands and came to America to pursue their dreams – it was not out of malicious greed. Before even teaching the fundamental schools of thought, I always begin with a brief review of American history from about the Civil War up to the Great Depression just to set the context, and to avoid letting ideology or political correctness get in the way of powerful ideas. Even after reading the seminal works, people will disagree about a particular author’s intentions, motivations and feelings about this or that issue. But, one is on much firmer ground by arguing the point from the perspective of the author’s own words, not from someone else’s interpretation of them.

Conclusion

The basic typology presented here is certainly not new. What I have tried to do instead is to offer a new way to think about and teach the foundations of our discipline to

students who may have never been exposed to these ideas in a formal, academic sense. The list of six assumptions is certainly not all-inclusive, though it has served me well. Surely there is more that could be added or some that might even be deleted. I use this complete table in a course for new MBAs who may or may not have undergraduate business degrees. But I expand the number of dimensions for my PhD students and challenge them to come up even more assumptions. However, when I teach an introductory course in management at the junior level, I drop off the last two rows of Table IV and focus only on four assumptions.

Beyond making it easier to understand and teach the management discipline using these specific paradigms, this approach helps us meet the three challenges mentioned at the beginning of this paper. It also answers Koontz's (1961) plea to bring a classification method to the field based on his three criteria. Thus, I contend that this paradigmatic framework restricts the discipline to a manageable size, uses terminology that is straightforward so as to serve both academic and practitioner, and it gives direction to teaching and research by isolating independent attributes and assumptions of each school.

The fundamental ideas in management are usually taken for granted. And often, a new book about management hits the best-seller list because it purports to have discovered a new and quicker path out of the theory jungle. However, I contend that the best path out of the management theory jungle is best discovered by using the most knowledgeable guides – the authors of the seminal works in the discipline.

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Further reading

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