Essai: The ghost in the organism

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Abstract

According to Morgan (1986) the emergence of the organism metaphor and the idea that organizations are more like organisms has saved organization theory from its once so predominant mechanistic precepts. We argue that it has not. Rather, the mechanistic underpinnings of organization merely found a new medium of expression in the organism metaphor. And, as we attempt to show, this has a lot to do with the particular legacy that first informed so-called organic thinking about organizations in the 20th century. The paper is two-fold: First, we investigate the history of the words organization and organism and ask how it became possible for one to be used as a metaphor for the other. Second, we examine the way that the organism is brought into the fold of organization so as to reinforce the mechanistic underpinnings of the field. We conclude that if the mechanistic ghost in the organism is to be exorcised organisation studies needs to recognize and rethink its underlying premises.

Introduction

“Let’s think about organizations as if they were organisms.” This is the bold statement that begins the third chapter of Gareth Morgan’s *Images of Organization* (1986), one of the most influential works in our field over the past decade. Citation indexes relate the thousands of times this work has been referenced, and it was re-issued, largely unchanged, in 1997.

In the introduction of *Images*, Morgan (1986: 13-14; 1997: 6) outlines that “one of the most basic problems of modern management is that the mechanical way of thinking is so ingrained in our everyday conceptions of organization that it is often very difficult to organize in any other way”. Beyond this, Morgan’s first chapter examines the machine view of organization that he claims to be so ingrained and at once “imperfectly suited” to the environmental conditions of organization. However, the “images of organization” considered in his later chapters claim to “give a glimpse of what may be both possible and appropriate for managing in these new times” (Morgan 1986: 38; 1997: 31). The first chapter that seeks to present a different way of thinking is devoted to the organism metaphor: “Let’s think about organizations as if they were organisms.”

Our paper argues that this statement (and the chapter that emerges from it) illustrates how the mechanical way of thinking is still deeply ingrained in our everyday conceptions of organization. Despite Morgan’s contrary aim, the machine is further ingrained because the organism is represented in organization studies in a highly mechanistic or modernist way. In organisation studies, the organism turns out to be an idealized simulacrum of a more evolved machine. Hence, by prefacing the organism view with the machine view, and by seeing the machine view as the foundation of organization, the field, and Morgan’s book, unwittingly reinforce what Morgan seeks to overcome.

The examination that follows is twofold. First, the etymology of the words ‘organization’ and ‘organism’ is investigated. How is it that these two words (one with mechanistic or ‘alien’ connotations, the other with natural) were once the same before becoming so different that one could be used as a metaphor for the other? Second, the paper examines the way in which the organism is brought into the fold of

organization studies, and as a consequence reinforcing many of the field's mechanistic premises.

Organization and the organism: a brief etymology

Morgan (1986: 21, underlining added) begins his chapter on the machine metaphor by noting that the word organization:

derives from the Greek *organon*, meaning a tool or instrument. No wonder, therefore that ideas about tasks, goals, aims, and objectives have become such fundamental organizational concepts. For tools and instruments are mechanical devices invented and developed to aid in performing some kind of goal-oriented activity.

Morgan is quite correct in tracing organization to the Ancient Greek '*opyvov*' (*organon*).¹ However, his next sentence expands upon this idea through very modern eyes. For the Greeks, an *organon*, a tool or an instrument, could be much more than "mechanical devices performing some kind of goal-oriented activity".

In keeping with Ancient Greek's ambiguous and relativistic arrangement (Liddell and Scott, for example, take over three pages to relate the dozens of meanings of the *logos*, each dependent on the context in which the word is used), the meaning of the *organon* was very broad. It could refer to any instrument, method or tool that helped an individual's living, making or performing. It could also refer to any being's form as an instrument for being. And it could refer to bodily organs as instruments of sense or faculty, to surgical or musical instruments, or to an engine of war. In later periods, however, its meaning takes on particular emphases. The Latin *organum* came to refer primarily to a mechanical device, especially war engines, while Medieval Christian writers related the word primarily to the musical church-organ.

The OED notes the use of *organons* in English from the 16th century, and here, as is often the case in the Renaissance, a more Greek manner of the word returns. It is used here in two main senses. Its primary sense, which the OED distinguishes as ‘naturalized’ (“A bodily organ, especially as an instrument of the soul or the mind”); and a secondary meaning that the OED terms ‘alien’ (“a system of rules or principles of demonstration or investigation”). The earliest uses of *to organize* (a phonetic rendition of *organons*), *organized* and *organization* in English also appear during the Renaissance, and tend towards the Greek relation to ‘natural’ bodily meanings (e.g., “to furnish with organs”; “that [which] is, or has been, endowed with physical life, as an animal or plant body”; “the condition of being organized as a living being”; “the structure of an organized body (animal or plant)”). The OED lists references dating from 1413 in this manner, tapering off before drying up altogether around 1870.

Using *to organize* in this sense ceases in the 19th century because a new variant, which first appeared at the end of the 17th century has, by the end of the 18th, emerged to cover this bodily sense of the *organon*: this was the *organism*. Whilst *organization* in less degree is related to individual living ‘organic’ beings, we find the rise of a meaning that focuses on a mechanistic and more general concept of ‘being organized’. Unlike the *organism*, ‘being organized’ was increasingly associated with applying external rules of co-ordination, standardization and order toward efficiency.

In the current edition of the *Oxford Dictionary for the Business World* we find the resonance of the telling split that now exists between the two words once covered by one. An *organism* equals an “individual plant or animal” or a “living being with independent parts”. *Organization* is, somewhat circularly, defined as “organizing or

being organized” or an “organized body, system or society”. If one seeks further clarification, though, one finds that in this lexicon *to organize* is defined as “to give an orderly structure to”. And *order* is defined as “tidiness” (Issacs and Martin 1993; see Johannsen and Page’s *International Dictionary of Management* 1987, and French and Saward’s *Dictionary of Management* 1983 for similar definitions).

By the 1950s, the former meaning of organization had vanished and the latter had become well entrenched. Indeed, at this point a new variant emerges: “Organization Man”. Earlier, from a Greek perspective, such a phrase might have meant a ‘living being individual human’. In fact, it may have been even more repetitious since ‘organization’ was already implied within the word ‘man’ itself. Hence, the Greeks would end up with “Organization Man” meaning ‘man man’. However, in our age, “Organization Man” means something quite different, namely: “a man who subordinates his individuality and his personal life to the mechanistic organization he serves”. Whilst organization once meant any particular instrument or arrangement that enabled a being to achieve their aims or needs, it was now the human being who was an instrument of the needs of a general, abstract and particularly mechanistic view of organization. How did this come to pass? Trying to answer this question, we have put our emphasis on two key transformations taking place in the period from the Renaissance to the 19th century contribute; one relating to knowledge, the other relating to language.

Knowledge

Up until the 17th century, all beings were seen as working under the influence of a confusing web consisting of the subsequent three elements: supernatural forces; the particular *telos* or purpose of each being (no distinction was made between animate

beings and inanimate things!); and similitude. Further on, the elements of this taxonomic web were working via discrete connections of sympathy, antipathy and analogy (Foucault 1970).² By contrast, during the 17th and 18th centuries people were increasingly influenced by a conception of unitary impersonal laws governing the universe, a view scarcely apprehended in the previous century. “[P]oets and philosophers alike [were] delighted by the perfect order in which they perceived the cosmos to be arranged” (Barfield 1926: 172). This appreciation of Nature’s regularity is now so familiar that it is difficult to realize its freshness at that time. Yet it is illustrated by the transformation in this period of the meanings of words such as: to organize, organization, category, classify, method, regular, regulate, regularity, system, systematic and assemble.³

These transformations indicate the way in which the clockwork-machine became the “founding metaphor of modern science” (Dupre 1993: 2; Dawkins 1986). All beings were now seen as things made up of separate functions that worked according to standardized principles. Controlled by some unitary overarching logic, things took inputs and turned them into outputs via some structured and predictable process. In this sense, all things were now seen as organized. Nature came to be recognized as mechanistically ordered from without, thus enabling this meaning of the *organon* to become more common in that it could describe both an *organism* and an *organization*. This change spurred modern science towards the discovery of the universal laws that drove all motion.

Implied in the idea described above is the belief that Man can separate himself from the web of action in order to observe, and hence better control, the workings of these mechanisms. In other words, this organization of the world is something other than man. This belief is perhaps best manifested in the thinking of Descartes, who

introduced two new distinctions. Descartes' account of the 'reality' of matter begins by distinguishing between *primary* and *secondary* qualities. Secondary qualities were based on convention and sense data, thus recognising the sort of signs that the web or similitude had appealed to in pre-modern knowledge. But underneath these lay permanent objective primary qualities, largely determined in terms of function. Hence, we have the idea that mechanical principles are behind all matter. In addition, Descartes found that there was one element beyond this kind of analysis: the mind. Thus, the *cogito* and the notion that the mind is above the body, that thinking is separate from doing. This gave the mind a privileged status, taking it out and placing it above action, as *res cogitans*. All else, all other objects extended below the knowing mind, was regarded as matter whose primary qualities could be described as pure extension, as *res extensa*, identified with 'space' and objectively described with universal measures. In *On Method* Descartes explains that:

Space or internal place, and the corporeal substance which is comprised in it, are not different in reality but merely in the mode by which they are conceived by us. Nothing remains in the idea of a body except that it is something extended in length, breadth and depth.

Consequently, the result was a method of modern science that had been hinted at already by Galileo and Newton. This method was manifested in Galileo's works by his combination of empirical evidence (provided by his telescope) and the clockwork analogy (that he saw in his minds-eye as a Platonic ideal), and in Newton's works when combining induction and deduction by a mind placed above the web of action (Feyerabend 1987; Shapin 1996). Humans were now free to recognize and, at least to some extent, control the external mechanistic principles of organization that were now believed to underpin and drive all matter. Subsequently, as this world view

became more influential, organization would increasingly mean the working or application of just this kind of principles.

Language

While the recovery of Greek aesthetics and philosophy influenced the Renaissance, it was the Roman view that largely shaped modernity. The influence of the Romans was twofold. Their republican aspect was the very embodiment of liberty that drove modernity's political revolutions. However, in its structure and military bent, Latin was the ideal schema of discipline to replace the traditional dependence upon 'secondary' custom and *telos* as modes of control. Hence, "the Rome of the 18th Century and the Revolution was the Rome of the Senate, but it was also that of the legion; it was the Rome of the Forum, but it was also that of the camps" (Foucault 1977: 146). In keeping, Barfield (1926) stresses that English was shaped by Latin meanings overtaking Greek by transforming the words mentioned above toward their modern mechanistic and instrumental senses.

However, beyond Rome surpassing Greece in the minds of modern administrators, the idea that language should be positivistic rather than relativistic was added by modern thinkers keen to advance the applicability of scientific reason. Words should stand for definable things without ambiguity. Language, in representing the world, should be an ordered, hierarchical system. The 17th and 18th centuries, in conjunction with attempts to order knowledge, witnessed lively interest in the invention of an artificial language to replace Latin as the medium of international scholarship. The interest in such systems developed at this point for two reasons. First, mastering Latin was increasingly seen as time-consumingly inefficient (already in 1644, Milton remarked that "we do amiss to spend seven or eight years merely in

scraping together so much miserable Latine and Greek, as might be learnt otherwise easily and delightfully in one year”). Second, the lack of a logical relationship between Latin words and their objects came to be regarded as problematic. Latin, like all traditional languages, had developed without systematic forethought. It was thought better if a language could be built anew from a clean slate to logically represent objects. The objective was to construct a language in which “grammar was regular and simple... syntax grew from natural processes of thought, and the significance of every part of an unknown made its meaning clear upon analysis” (Schumaker 1982: 134, our omissions).

This aim would inspire modern thought ranging from Leibniz’s quest for an ‘Infinitesimal Calculus’ to Wittgenstein’s outline of a hierarchical atomistic picture theory of language in the *Tractatus* (whereby World = Language; Facts = Propositions; States of Affairs = Elementary Propositions; and Objects = Names). Adhering to the mind/body dualism, the moderns believed that the use of language represented a thought-picture of the state of *matter* in the *mind* of the sayer. It followed that what could be said was what could be thought and, in turn, that one could translate sentences into logical calculi that represented exactly what could be said without any scope for misunderstanding. Much less exertion would be required to distract the memory from further intelligence. More importantly, mastery of the language (given that it mirrored reality) would bring a certain understanding of everything. The sum of the universal calculi would lay bare the structure of legitimate thought about the material world.

However, to make a language system like this work requires that words, particularly nouns, are not ambiguous in their meaning. Thus, the possibility of a word like the *organon* that stands for both an individual living being and the

application of external objective principles diminishes – despite being perfectly acceptable both in Ancient Greece and again during the Renaissance. The *organism* first appears in the English language at the end of the 17th century, and becomes increasingly frequent in use during the 18th and 19th centuries. As a buzz-word of Romanticism (Orsini 1972), the organism takes on fundamentally different meanings from both the mechanism and (mechanistic) organization. And according to Rosen (1996), it was the German Romanticist Herder who was the first to draw an absolute distinction between the organism and the mechanism.

Although Herder associated the organism with order, it was with a particular kind of order. Unlike the order of (mechanistic) organization, the order of the organism was based on harmony, diversity and equality (ibid.). However, Herder himself was less than explicit about the implications of the organism, and it was his former teacher Kant who first formulated the differences between the mechanism and the organism explicitly. According to Kant, organisms are internally organised and actively self-organising beings. They do not follow an externally imposed purpose, as is the case with the machine and the mechanistic organization. On the contrary, their self-organising activity results from the following of an internal purpose. Hence, to the organism, every means is itself a purpose and every step is itself a goal (ibid.). This organism seems a far cry away from the organization based on external rules of co-ordination, standardization and order towards efficiency. Hence, in modernity, organization and organism come to stand for two different ‘things’. So different that one may now be used as a metaphor for the other.

The idealized mechanistic organism

The etymology presented above demonstrates the way in which organization came to stand for the mechanistic thing that Morgan believes is detrimentally entrenched and wishes to get beyond. This modern view of organization is indeed ingrained in what is seen as the foundation of organization, organizations and their management. Hence, in the 1950s, the American Management Association would ‘find’ that the “fundamental processes of management” were Fayolian: “planning, organizing and executing,” organizing effectively meaning ‘the division and ordering of labour’ and executing being, by its AMA definition, “synonymous with controlling” (Appley 1954: 11). Hence, the theory of the firm in microeconomics, for so long the only model that managers could look to (Locke 1989), is an input-process-output function, whereby the purpose of ‘process’ is to make efficiency gains. Hence, Ansoff would ‘establish’ the field called corporate strategy in the 1960s by adding a planning function over and above the input-process-output mechanism. Hence, the “core features of the modern organization” are seen as “centralization, specialization and standardization” (*Collins Dictionary of Business* 1995: 460), and Chandler’s definition of his historical object, which outlines “the reference points in business history on which management researchers must rely” (Leontiades 1989: 30; Harvey & Jones 1990; Lee 1990; Wilson 1995), “has two specific characteristics: it contains many distinct operating units and it is managed by a hierarchy of salaried executives [...]” (Chandler 1977: 1).

Given these depictions as the basis of organization in management studies, it seems clear that using organisms as an alternative point of view would provide a means of thinking differently. This is what the third chapter of *Images* seeks to do. “Under the influence of the machine metaphor”, writes Morgan (1997: 34), “organization theory was locked into a form of engineering, pre-occupied with

relations between goals, structures, and efficiency. The idea that organizations are more like organisms has changed all this”.

This paper does not argue that Morgan’s work in his organism chapter, as indicative of developments in the field in general, does not expand upon the boundaries outlined in the paragraphs above. However, it does argue that much of what is presented as organic should be acknowledged as an extension of mechanistic principles, albeit in kid gloves. The organism metaphor, as it has been developed, has not “changed all” things mechanical. In many ways it has perpetuated them, and in so doing mechanistic principles are further ingrained. The next few paragraphs present examples of this subtle ingrainings from the first few pages of the third chapter in *Images*.

Morgan begins his discussion by claiming that “we can start this story” (of the organism metaphor) with Elton Mayo. Mayo is listed with Munsterberg, Parker Follett and Barnard as the “new pioneers” of management (Gross 1964) who focused upon what is labelled the “human” or “other” side of work, “the human side of the equation” (e.g., Urwick & Brech 1953; McGregor 1960; Kossen 1983; Greenberg & Baron 1995; Longnecker et al. 1997). Importantly, however, the new pioneers did not seek to change the conception of what organizations were about. The pioneers like Fayol, Weber and Taylor set our view of what the equation is about, of what organizations, at base, are. The new pioneers, on the other hand, merely concerned themselves with the adjustment of humans to this form, with the selection, training, manipulation and adjustment of “human resources” to these principles (Braverman 1974). They did not dispute the prime importance of efficiency as ‘the gospel’, they argued. Rather, they argued that other methods should be considered toward the goal of efficiency (Gross 1964). These continuities can be seen in the titles of the new

pioneers' works. Munsterberg's (1913) *Psychology and Industrial Efficiency* described the role that psychologists should play *after* having paid tribute to Taylor as the "brilliant originator", while Mayo's (1933) thesis in *The Human Problems of an Industrial Civilization* was that "logical factors were far less important than emotional factors in determining productive efficiency" (George 1968: 137).

Morgan then skips on to Abraham Maslow's theory of motivation. The first exhibit in his chapter on the organism metaphor presents Maslow's hierarchy of needs - a pyramid structure moving from base physiological things upward to mind things. This 'organism' (?) is, of course, a direct replication in form of Ansoff's beginning of strategy, of the scientific separation of mind and body, of Chandler's historical object, and Weber's bureaucratic model.⁴ One cannot help but think that something mechanistic with regard to organizations is being reinforced in Maslow's depiction of human motivation.

Following Maslow is a discussion on organizations as 'open systems', that is, not as closed input-process-output systems. This idea is usually traced to the new pioneer Barnard's work in the 1930s, but it gained particular prominence in the 1960s and that decades' quest for a framework to unify what was seen as a 'jungle' or 'flood' of theories of managing organizations (Koontz 1961; 1964; Urwick & Brech 1953). Although Morgan does not diagrammatize this systems thinking, an equally popular text (Robbins & Mukerji 1990) presents the gist in two diagrams. The first presents the 'process approach' which it attributes to Koontz. This, effectively, is Fayol's principles of "planning, organizing, leading and controlling" with a feedback loop built in from controlling back to planning.

The second is the 'systems approach', which 'transforms' the old input-process-output model by putting a circle around it. Morgan takes up this idea in his

organism chapter, and describes how an organization can be seen as a “set of subsystems”. Indeed, it is a model that would have been implausible prior to modernity. Morgan’s organism is an ideal. It is a simulacrum. In pre-modern times the web of similitude only required direct connections between two or more particular things via a particular analogy. It is modernity that takes as its task the ‘ordering’ of this web by assigning things to particular places on general tables, for then to look ‘underneath’ for the common ideal functions that underpin a whole genus and give evolution a direction away from general origins (Foucault 1970).

One may illustrate the change by contrasting modernism with Galen, who felt dissection unnecessary as he could draw all he sought via particular animal analogies, or Leonardo, who, in the 15th and 16th centuries, still drew from Galen’s system to depict the particular life model he had before him, with later depictions of humans (see, for example, his *A Comparison Between the Legs of a Horse and a Man* c. 1506-7). By the end of the 16th century Vesalius’ more stylized anatomy based solely on the dissection and aggregated observations of humans had become the legitimate system in the West (although Galen’s ideas still reigned in the East). Leonardo still attributed human action to a spontaneous principle, or the *natura naturans*. By the end of the 17th century this concept had disappeared, and the word ‘nature’ itself had come to mean mechanical properties, or *natura naturata*. Here Borelli’s *De Motu Animalium* (O’Malley 1969: 73) depicted the human body not just using an ordered and exacting approach, but reductively and idealistically through the metaphorical template of a machine (Porter 1997). By the 18th century, the works of Camper and von Soemmering, that emphasised measurement of space and proportion, claimed to be influenced by the aesthetics of Winckelmann (1764) who proclaimed that an attribute of beauty was “the absence of individuality”.

In the 1930s, the same time that Barnard was writing, a popular science compendium would answer the question “Is a living man fundamentally a machine?” thus:

That is a question capable of experimental decision. We can measure the amount of food that a man or an animal consumes over a given period of time, and we can measure the energy yielded during the same period. If we burn an equal weight of similar food in a suitable apparatus and find out how much energy its combustion yields, and if this value is equal to the energy yielded by the experimental subject, then evidently the living-organism so far as its energy output is concerned is really and precisely a combustion engine (*The Science of Life*, Wells et al. 1931).

Sharing the same input-process-output characteristics, the similarity between Wells et al.’s organism and the organism presented in Morgan is striking, though the latter resembles that of an actual living being even less than the former does. It is consequently hard to see how this organic depiction has taken the mechanistic view of organization and, in Morgan’s (1997: 34) words, “changed all this”. If anything, mechanistic principles are reinforced by the fact that the mechanistic model has been used as a foundation for the conception of organism, a model which perhaps has, in the process, become more difficult to see and hence critique given its deeper-set foundational nature.

Conclusion

This paper has not meant to suggest that Morgan’s analysis is naïve. Indeed Morgan acknowledges many of the weaknesses of the organism metaphor as he presents it, and later sections of his chapter are not as mechanistic as those focussed upon here. Moreover, the paper has not set out to undermine Morgan’s argument that the machine metaphor is ingrained in organization studies and that we need to both recognize this and seek to incorporate alternative conceptions. Rather, the aim of this

paper has been to take Morgan's presentation as indicative of the way in which the organism metaphor in organization studies is built upon mechanistic foundations. These mechanistic foundations, we have argued, lead to an approach that at once seeks to overcome the machine metaphor while unwittingly reiterating many aspects of it. Finally, we want to suggest two ways in which Morgan's aim of thinking differently about organizations may be aided in the light of this.

Firstly, perhaps Morgan's aim would be better achieved by management and organization studies if it was less 'modern' in the presentation of its history. This modern-ness typically comes across in two respects: in the establishment of the origins of the management of organizations and in the presentation of a unified chronologically linear advancement of the field from this point. Morgan, perhaps unconsciously, follows the field by beginning his work with the mechanistic metaphor. Pick up any history of management or any organizational behaviour textbook and it will begin with Taylor, Fayol and a report of Weber's advocacy of bureaucracy, or it may 'dig deeper' by incorporating Adam Smith, Charles Babbage or Protestantism (Tsoukas & Cummings 1997). Even those who look prior to modernity (favourite topics include the pyramids, Roman legions, or Church hierarchies) do so in such a way as to project modern values into the past, thereby 'proving' their universality. Mooney and Reiley began this trend beautifully in *Onward Industry* when upon surveying a range of diverse organizations back to ancient civilizations they found three universal principles - co-ordination, scalarity and functional sub-division - thereby proving these principles to be "as old as human society itself" (Mooney and Reiley 1939: ix). That these principles were not actually referred to by the ancients did not cause Mooney and Reiley any pause: "That the great organizers of history applied these principles unconsciously" only told them that

“their technique was inherent in their genius” (Mooney and Reiley 1939: 4). This notion that the management of organizations begins when the values that modern Western societies privilege come to the fore should be questioned. In addition, in presenting a chronological development in the early pages of his third chapter, Morgan incorporates much under the banner of organism (thinking from the 1930s for example) which ‘connects’ his presentation of the organism to mechanism.

Secondly, Morgan’s chapter, and the field in general, tends to look at the organization as an organism, not as different organisms. It should be recognized that the general idealized organism is very much a modern conception and, as such harbours many of modernism’s mechanistic assumptions within it.

Hopefully a third edition of *Images of Organization* will appear. Perhaps when it does it may lead the field by reworking its underlying history as to not privileging the mechanistic origins of the field. Furthermore, it may incorporate more in its organism chapter about organizations seen through the lens of many different idiosyncratic living beings. Perhaps this will make the mechanical way of thinking less, rather than more, ingrained in our everyday conceptions of organization.

Notes

1. The etymologies and quotations used in this paper are taken from the Oxford English Dictionary (OED), Liddell and Scott's Greek-English Lexicon and the Oxford Latin Dictionary.
2. For example, opium was relaxing because of the poppy’s dormative gait, walnuts cured headaches because they looked like the brain, and each star or constellation had a relation with a particular god, particular plants and so forth and,

consequently, all that belonged to a particular network followed a similar pattern of behaviour.

3. While the notion of *assembly* has now become virtually synonymous with mechanistic construction, it was still closely associated with craft work in Britain until the 18th century. The production of firearms here was still organized around small establishments and dependence on skilled craftsmen, but changes were afoot in the United States. Whitney and his partner Simeon North, a clockmaker, pioneered the practical implementation of mass production in the late 1790s. Soon after, Whitney applied their techniques to the manufacture of guns via the *assembly* of interchangeable parts and also experimented with different spans of control. These developments led to an interesting situation when first observed by the British. When the 'British Committee on the Machinery of the United States' visited American manufacturing establishments in 1853, it was so astonished to see American workers put together standardized and interchangeable parts, that in its report the Committee enclosed the term *assembly* in quotation marks: "the notion of assembling a firearm, with the use of 'nothing but the turn screw', was completely strange to men who had had previous experience with craft methods of gun production" (Rosenberg 1969: 57).
4. While management and organization studies claims Weber as a "pioneer", an "organizational sociologist" (DuBrin 1984: 426) or "the founder of organization theory" (Wren 1994: 195) and labels his "main concern" as "the nature of bureaucracies" (Clutterbuck & Crainer 1990: 18), it is important to bear in mind that this is very much done from its own point of hindsight. In the 1950s, when

scholars in the fledgling subject began to systematically trace its development, it was to Parsons' recently translated renditions of Weber that they turned to legitimate their frameworks (this explains why Weber is placed on George's (1972) 'Continuum of Management Thought' and on Greenberg and Baron's (1983) 'A Timeline of Milestones in Organizational Behavior' at 1947, which at first sight seems a little odd, remembering that Weber had been dead since 1920 - 1947 was the year that Parsons' translation of *The Theory of Social and Economic Organization* first appeared). However, management and organization theorists turned to just one aspect of Weber's multi-faceted analysis: that bureaucracy was the most rational, and thus seemingly inevitable, form of organizing. While Weber (1948: 337) was sure that bureaucracy was: "always, from a formal technical point of view, the most rational type... superior to any other form in precision, in stability, in the stringency of its discipline, and in its reliability", he only believed it to be the inevitable form because the particular value set of his times made it so. For Weber there were still other forms of organization. Bureaucracy was one particular mode, a feature specific to modernity, a feature made necessary by the peculiarity of a culture where the "'objective' discharge of business primarily means a discharge of business according to calculable rules and without regard for persons" (Weber 1948: 215). The bureaucratic iron cage that was stiffening as Weber (1930: 181-2) wrote, was for him the manifestation of a "victorious capitalism" resting on "mechanical foundations". For modern organization theorists, bureaucracy defined what organization was, or at least where it started from. By the 1950s, 'ends' like efficiency and mechanistic means like functional sub-division, hierarchization and standardization were not particular culture-bound ways of assessing organization, they were what

organization was. While Weber (in Gross 1964) was, in actual fact, entirely pessimistic about the modern “passion for bureaucracy”, seeing it as “enough to drive one to despair”, contemporary vernacular has transformed Weber into the prime advocate of bureaucracy as *the* ideal organization. By the late 1960s respected theorists could complain that Weber “went too far in advocating a machine-like organization” (Dale 1967: 12) and that he paid “repeated homage” to the “Taylor system as a pioneer effort in the rational conditioning of work performance” (Gerth & Mills 1954: 261).

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