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Vilfredo Pareto as a Forerunner of Management: The Pareto Foundations of Some Management Theories

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Abstract

Pareto's contribution to both economics and sociology has been monumental. However, in management, his theory has seldom been used, even though he was interested in economics and sociology because of his engineering practice.

The basis of his work was to understand nonlogical actions. Essentially, the nonrational factors (or nonlogical, he might say, sentiments, or "residues") in decision making and the fact that any action or expression in the words of a goal always falls short of what is meant make the authoritarian and nonparticipative management styles short-sighted. To some extent, Pareto anticipated some of the management concepts and theories of the twentieth century. In this paper, I expose some of these anticipated theories, showing the coincidences, even with the (often) difference in language.

The paper starts by reviewing some Pareto concepts and constructions. Then, I proceed to discuss the concept of bounded rationality and compare it with Pareto's ideas. Next, I compare the distinction between "espoused theory" and "theory-in-use", as developed by Chris Argyris and the Pareto models of nonlogical action. Then, the theory of management control systems is analyze, and, finally, I discuss the concepts of the characteristics of a leader found in the work of Philip Selznick, and the concept of organizational culture, as developed by the same author, to compare it with what Pareto said. I end with some methodological comments and implications for current management practices.

Keywords: Pareto, elites, bounded rationality, theory-in-use, espoused theory, organizational culture, rationality, nonlogical actions

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Contents

1. Introduction

Vilfredo Pareto is a classic figure of sociology, along with Émile Durkheim, Max Weber, and, possibly, Karl Marx, although he is perhaps at the same time the most controversial of this illustrious group, in which he is sometimes not even included. Pareto was the son of an Italian civil engineer exiled to Switzerland and who eventually followed his father's studies in Turin, practicing his profession for several years as a railway engineer before going into economics and sociology, as we will see. In spite of being somewhat controversial, some Pareto's ideas may be interesting today for management academics, even though his work was not even remotely designed with this goal in mind or even to improve management practice. Essentially, the nonrational factors (or nonlogical, or sentiments, or "residues" in his vocabulary) in decision-making and the fact that any action or expression in words of a goal always falls short of what is meant make the authoritarian and nonparticipative management styles short-sighted. Mainly, as we will see, in the area of management control systems, which nowadays are often thought of as something *rigid*, as mere sets of indicators (often called key performance indicators or KPI's) such that, if a system of incentives is applied to them, they will alone achieve the organizational objectives. To some extent, Pareto anticipated some management concepts and theories of the twentieth century, which might have been very useful if we had studied them. In this paper, I expose some theories I believe were anticipated, showing the coincidences, despite the possible difference in vocabulary.

I will start by reviewing the Pareto concepts that are still used today. Then, I proceed to show how some other concepts or theories of Pareto relate to well-known management theories. First, I discuss the concept of bounded rationality, developed by Herbert Simon during the 1940s and 1950s, and compare it with Pareto's nonlogical action. Next, I compare the difference between the "espoused theory" and "theory-in-use," as developed by Chris Argyris to the concepts of "psychic state" and "theory" of Pareto. Finally, I discuss the concepts of the characteristics of a leader, as developed by Philip Selznick (who, incidentally, is the only one of the authors examined that explicitly cites Pareto in his analysis), and the concept of organizational culture, as developed by the same author, to compare it with what Pareto said. I finish with some comments about Pareto's methodology and its implications for current management research and practices.

2. Pareto's Economic and Sociological Theories

Pareto's name is well known as a sociologist (one of the most important classic authors of the discipline), as an economist (we could say the same again), as a theorist in political science and even in philosophy. However, he is best known for what he did in three specific topics that we might qualify as "minor" compared to his treatises on these two disciplines. Namely, (1) the Pareto efficiency (or Pareto optimal allocations, which is about the same), (2) the Pareto's distribution in statistics, and (3) his formulation of the "circulation of elites" as a way to explain changes in government and the characteristics that leaders should have. We will explain them briefly next.

An economic situation with several actors is said to be *Pareto efficient* (or Pareto optimal) if it is not possible to increase the wealth or well-being of one actor without decreasing that of others. This concept of efficiency by no means implies that the allocation is "just" or "fair"; rather, it is just "efficient" in the Pareto sense. A competitive equilibrium under the customary assumptions in microeconomic theory has been shown to be Pareto efficient, which is one of the reasons why Pareto efficiency is a concept often used in economics.

What is today called the "Pareto distribution" in the field of probability theory comes from his observation that 20% of the population typically holds 80% of the wealth (or income), while 80% of the people holds only the remaining 20%. This idea is the root of what are called "Pareto charts," a bar chart used, for instance, in quality control to prioritize the type of defects that occur more often. Pareto himself had nothing to do with the chart, incidentally, only with the underlying concept of the Pareto distribution.

Finally, Pareto suggested that a country is possible governed by an elite at some point in time, but that, after a while, it will be replaced by another elite and then by yet another and so on. He calls this "the circulation of the elites."

The concept of Pareto optimality continues to be useful today in many areas (among them, analysis of economic systems, resource allocation, welfare economics, game theory and social choice). The Pareto distribution has been further developed and applied to many other fields besides the distribution of income. Those who have been teachers for about 50 years know that 20% of the students cause 80% of the problems and that 80% of the students cause only the remaining 20% of them (many of them practically not causing any!). The "circulation of the elites" is also relatively well known today, although it is often misinterpreted as being directly related to the conception of "elitism" as the holding of power and privileges by an economic elite. Pareto's idea of an elite consisted only of the set of the best people in different areas of knowledge or of human activity, one of which was government, and that this elite of the best people in each activity should be in charge of that activity.

Pareto went much further than these three concepts. He wrote two comprehensive books, one in economics (*Manuale di economia politica con una introduzione alla scienza sociale*) in 1906 and one in sociology (*Trattato di sociologia generale)* in 1916. In this second book, he intended to write a comprehensive treatise on nonlogical action that would provide the basis of sociology. It has been extensively studied by sociologists, by political scientists, or people in other fields who did not have in mind the problems of the management of organizations, whether companies or public organizations or nongovernmental organizations, and the decision-making processes within them.

The aim of this paper is precisely to contribute to fill this gap, i.e., to show how he provided a foundation for concepts and theories often used today in management. Specifically, bounded rationality, the Argyris distinction between "espoused theory" and "theory-in-use," the concepts of leadership and organizational culture, highlighting the importance of some practices ("cult") in the creation of that culture, and the idea of informal, nonquantifiable relationships in organizations. At the same time, it is interesting to show how Pareto is very rigorous in using words exactly as he defines them, which seldom coincides with the intuitive idea suggested by the same word in the ordinary language, which typically goes beyond the abstract definition in a somewhat ambiguous way.

3. Pareto and Logical and Nonlogical Actions

As a civil engineer, Pareto had a good mathematical and scientific background, and he realized that, in his field of engineering, for each problem, there was a "logical-experimental" theory that made it possible to reach the solution desired provided that the means were made available, and the appropriate actions were taken.

After a few years, he became increasingly concerned with social and political issues, in accordance with the political climate of his time (he had been born in 1848, the year of the revolutions in Europe: France, Italy, Austrian Empire, the Netherlands…). In fact, he went in some

depth into economics, was a disciple of Léon Walras and became a professor of this subject in Lausanne, applying mathematics to the study of economics. He thought that logico-experimental conceptual developments such as the ones that were so useful in engineering could be achieved in this field as well, even though in economics there were more uncertainties than in engineering.

This led him to sociology, where he realized that, in social matters, the lògico-experimental method had severe limitations, so that people often had to take (or simply took) nonlogical actions, which did not have a logico-experimental theory behind to support them, but they were not necessarily illogical. In his "Trattato di sociologia generale," he explained in detail how human action within society should be understood. He wanted to reproduce as much as possible in the social field the type of reasoning that was used in the field of engineering:

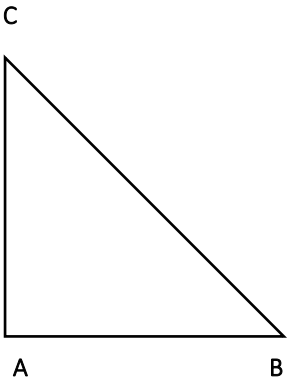
> We will call "logical actions" the actions that logically adjoin means to ends not only with respect of the subject performing them, but also from the standpoint of other people who have a wider knowledge, that is, to actions that are logical both subjectively and objectively in the sense explained above. Other actions we shall call nonlogical, which does not mean that they are "illogical" (Pareto 1916, #150).

Therefore, nonlogical actions are those that, subjectively or objectively, do not present a logical link. Raymond Aron puts it clearly as follows:

> They are therefore not part of science, and science, as it is defined, only covers a narrow or limited domain of reality (...) science does not logically determine the objectives. There is no scientific solution to the problem of action. Science cannot go further than to indicate the effective means to achieve the objectives: the determination of the objectives is not part of its domain. (Aron 1967, 422–423)

In Chapter II of the "Trattato," Pareto presents Figure 1 to show how we can logically or scientifically study nonlogical actions. There are two types of variables that we can know directly: what he calls "B," which are the acts that are carried out, and "C," the feelings made explicit, which "often develop into moral, religious or other theories" (Pareto 1916, #149). In fact, in the examples he gives related to religions, he says that they are "theology," that is, what is "officially" believed or supposed to be the basis of actions.

Figure 1



However, "A," the psychic state of the actors, escapes direct experience and instead is what determines the acts far more than C. A person, for example, may feel horror at homicide and refrain from it, but this person will say that it is because the gods punish murder, which constitutes a theory of the C type. Indeed, the very feeling that makes men refrain from killing prompts them to create a theory to justify it. That is, A is what creates B and C simultaneously.

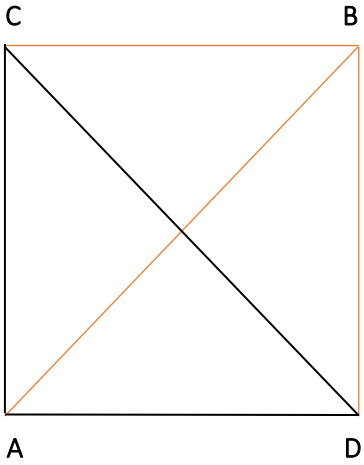
This analysis is expanded when he adds a new variable and, instead of illustrating it with a triangle, he does it with a square (see Figure 2), where A and C remain the same variables, but B, in contrast, is the "cult," (or the "ritual"), which leads to "D," which is the act:

> Before the invasion of Italy by the gods of Greece, the ancient Roman religion did not have a theology, C: it was no more than a cult, B. But the cult B, reacting upon A, exerted a powerful influence on the conduct, D, of the Roman people. (…) The direct relation, BD, when it existed, looks to us moderns manifestly absurd. But the relation BAD may often have been very reasonable and very beneficial to the Roman people. In general, any direct influence of a theology, C, upon D is in general weaker even than its influence upon A. It is therefore a serious mistake to measure the social value of a religion strictly by the logical or reasonable value of its theology» (Pareto, 1916, #167).

He then expands on this idea with a more modern example of free trade versus protectionism:

> These considerations apply to theories of all kinds. Assume, for example, that C is the theory of free trade; D, the concrete adoption of free trade by a country; A, a psychic state that is in great part the product of individual interests, economic, political, and social, and of the circumstances under which people live. (…) To work upon C in order to modify D leads to insignificant results. But any modification in A may react upon C and upon D. D and C will be seen to change simultaneously, and a superficial observer may think that D has changed because C has changed, whereas closer examination will reveal that D and C are not directly correlated, but depend both upon a common cause, A. (Pareto 1916, #168)

Figure 2



He goes on to explain how, in the England of his time, the practice of free trade for many years, B, influenced the psychic state, A, and this influenced the ideology, C, adopting the free trade ideology, and, at the same time, influencing the acts that are carried out, D. However, if certain things happen that harm, for example, the treasury, or a certain social group, then the actions may be seen as bad, and this may lead to a change in the psychic state A. In turn, this will change cult B, making it protectionist, and eventually, someone will come up with a new theory C to defend protectionism.

As the culmination of his theoretical elaboration, Pareto's two most characteristic concepts are those of "residues" and "derivations." His theories, in fact, can be considered "residual" in the sense that there are those who do not adapt to the scientific standard, that is, to the logical-experimental structure that he considers to be the hallmark of science.

Then, "he finds that the nonlogical-experimental theories can similarly be broken down into two main elements, a (relatively) constant and a variable respectively" (Parsons 1968, 197). "Part A consisting of experimental principles, descriptions, affirmations of experimental facts, and another part B consisting of logical deductions to which are also added other principles and experimental descriptions employed to draw deductions from A" (Pareto 1916, # 803).

Similarly, theory c. in which feeling plays a part and which add something to experience, can be divided into a part a, which consists of the manifestations of certain feelings, and part b, which consists of logical reasoning, sophisms, and additional manifestations of feelings. Defined like this, Pareto then gives names for the three variables a, b, and c, that is, residues, derivations, and derivatives, respectively, the latter being the results of the derivations from the residues.

4. Pareto, Simon, and Bounded Rationality

Herbert Simon was born in 1916, the same year Vilfredo Pareto published his magnum opus, *Trattato di sociologia generale*. In some sense, they had similar backgrounds. They were both very good at mathematics, knew how to apply it to the "hard" sciences, and believed that this application had been very successful. Pareto did not believe that the same method could be applied to the social sciences, precisely because people undertake many nonlogical actions (which, he always hastened to say, does not mean illogical in any way). However, what Pareto did believe in is that nonlogical actions can be studied in a logical way, which is what he tried to do in the *Trattato*.

Pareto, as we have seen, was a civil engineer who practiced engineering for a number of years, and then ended up in sociology, aiming to logically explain nonlogical actions. In other words, putting rationality into human actions that are not entirely rational, and, from there, understanding social and political problems and being able to propose solutions.

Herbert Simon, in contrast, attended the University of Chicago to study social science and mathematics, following the family influences, from his father (an engineer) and from his uncle H. Merkel (an economist), and going into social science and economics. His Ph. D. in 1943 was in political science, after having had an assistantship in municipal administration which was one of the bases of his dissertation, a revised version of which become his first book, "Administrative Behavior" (1957).

In this sense, Simon's aspirations were similar to those of Pareto about thirty years later: "The social sciences, I thought, needed the same kind of rigor and the same mathematical underpinnings that had made the 'hard' sciences so brilliantly successful". (Simon 1978)

It can be said, then, that their evolution was in the same spirit. Both had experience in government, albeit in a very different way, and both saw the limitations of real decision making, which often intends to be considered "rational" but actually falls short of this rationality.

However, their way of analyzing a problem is different. We have already seen how Pareto, in the *Trattato*, starts directly from human actions without going through economic theory or its limitations. In doing so, he made substantial contributions to the theory of utility, but it was not sufficiently developed in his time to make it the target of the criticisms that followed, which were the starting point of Herbert Simon.

It is almost a cliché to say that the theory of utility is based on unbounded rationality, that is, on the stereotype of *homo œconomicus* to make decisions. Essentially, this means that people have certain preferences (they know whether they prefer A to B, B to A, or are indifferent between the two possibilities) and that these preferences are transitive (if A is better than B and B is better than C, then A is better than C). Although it has always been accepted that this is not a good description of reality, these hypotheses continue to be the basis of microeconomics, and we have to accept that there are good reasons for that (e.g., in terms of analyzing the properties of economic systems). Herbert Simon made a structured critique of this hypothesis.

Simon coined the expression "bounded rationality" to characterize the real economic behavior of human beings, which is different from what the theory of utility assumed. Something he described as a behavior that is "intendedly rational but only limitedly so" (Simon 1957, xxiv). "Bounded rationality" is thus used to "designate rational choice that takes into account the cognitive limitations of the decision-maker-limitations of both knowledge and computational capacity" (Simon 1987, 266). This expression is often wrongly considered as uncertainty: bounded rationality relates to the behavioral characteristics of agents, whereas "fundamental" uncertainty relates to the essential unknowability of the future, to creative human agency, and to the unique nature of unfolding time (Dunn, 2001).

Often, when this concept is discussed, reference is made to the obviously limited capacity of human beings to make complex calculations in evaluating action alternatives and to the impossibility of being able to rigorously derive (Pareto would possibly say in a logico-experimental way) the consequences of the actions human beings can carry out. Also, this is possibly because there are some alternatives of action that are not obvious and that one must work to find them. Simon, however, in the original formulation of the concept (although he did not use the expression "bounded rationality" until later), mentioned the first limitation as "the ends to be attained by the choice of a particular behavior alternative are often incompletely or incorrectly stated, through failure to consider the alternative ends that could be reached by selection of another behavior" (1957, 65). In other words, we do not really know what we want. We think we want a certain result, but then, when we actually get it, it is often the case that we do not like it that much and that it has taken us much longer than we thought to get it.

Hence, it may be considered that Pareto is a good antecedent of Simon's bounded rationality. "Psychic state A" is not known with any precision, and instead, "theory" C is made explicit, which may be well structured and logically consistent but does not correspond to A except partially. Then, A dominates the action that is taken next, which does not satisfy the norms or theory expressed in C, which is supposedly rational, and becomes a nonlogical action.

A difference between the two ways of expressing this is because of the passage of time and evolution of economic science. In Pareto's time, utility theory was not as developed as it is today; in fact, Pareto was one of the few who contributed to its development. Therefore, he could not use the theory of utility as the basis of his criticism and went directly into the observation of

human actions. Herbert Simon, on the other hand, was able to attack the assumptions of this theory, even using the adjective "Olympic" (i.e., belonging to Zeus' Olympus) derogatorily to refer to the decision procedure based on expected utility maximization (Simon 1991). However, as stated at the beginning of this section, they started from the same frame of mind: a structured framework to show that the decision making of people and society as a whole always goes beyond what would be done in economics and, *a fortiori*, in engineering.

5. Argyris' "Theory-in-Use" and "Espoused Theory" Distinction

In the 1970s, together with Schön (Argyris and Schön 1974; Argyris 1991; Argyris 2002), Argyris developed a conceptual framework based on the distinction between two classes of theories that can guide action: the "espoused theory" and "theory-in-use." The "spoused theory" is the way we see the world and the values on which we believe our behavior should (or even *is*) based. In contrast, the "theory-in-use" is one that is consistent with our behavior, so we can interpret that our behavior happens because of that theory. His argument is based on the fact that people, in general, may not be aware that they implicitly have this second theory, let alone that it is different from the "spoused theory" they believe they profess. It is not, therefore, the difference we often believe exists between theory and practice in the sense that it is difficult to put in practice what we think we should, it is the difference between two theories.

Argyris (1991) believed that the espoused theory is the rational one and is consistent with the real values of the person, which is why he thought it necessary for decision-makers to attempt to act in accordance with it. Given that learning was his fundamental topic in research, this fits well with his distinction between "single-loop learning" and "double-loop learning":

> Single-loop learning occurs when errors are corrected without altering the underlying governing values. For example, a thermostat is programmed to turn on the heat if the temperature in the room is cold or turn off the heat if the room becomes too hot. Double-loop learning occurs when errors are corrected by changing the governing values and then the actions. A thermostat is double-loop learning if it questions why it is programmed to measure temperature, and then adjusts the temperature itself. (Argyris 2002, 206)

In single-loop learning if the results do not match, it is a matter in the future of changing the action that was taken last time and led to unsatisfactory results. In contrast, in "double-loop learning," when seeing the results, one may reconsider the way to execute these actions, but only after the objectives themselves are also reconsidered. In the first case, the established objectives are considered good, and in the second, they are considered variables that may be changed, when appropriate.

Single-loop learning is essentially based on what he calls "Model I." He states having identified "four basic values that people who operate by Model I assumptions always seem to strive to satisfy and that govern their behavior. They are (1) to define in their own terms the purpose of the situation in which they find themselves, (2) to win, (3) to suppress their own and others' feelings, and (4) to emphasize the intellectual and deemphasize the emotional aspects of problems" (Argyris 1977, 118-120).

In contrast, the underlying aims of what he has termed "Model II" are "to help people to produce valid information, make informed choices, and develop an internal commitment to those choices. Embedded in these values is the assumption that power (for double-loop learning) comes from having reliable information, from being competent, from talking on personnel responsibilities, and from continually monitoring the effectiveness of one's decisions."

The distinction between "espoused" and "in-use" theories is parallel to the distinction in Pareto between C and A, where C corresponds to the espoused theory and A to the theory-in-use. C is a consistent formulation of the "moral" principles or the "theology," thus expressing the (supposed) convictions of the organization, which is about the same as its "espoused theory". In contrast, A is the "psychic state" of the decision-makers and, thus, is the theory that actually conditions what is to be done.

The similarity is striking, but there is a significant difference between Pareto and Argyris from the point of view of action. In brief, Pareto recommends doing whatever is possible to change A if one wants to obtain some particular action. He clearly states that changing C will be of no practical use because the influence of a change in C on A is rather weak. In addition, A changes essentially with experience, seeing how pleasant or unpleasant the results are.

In contrast, Argyris tells decision-makers that they should change their theories-in-use if they believe that the espoused theories are what actually reflect what they think. He suggests that the reason for insisting that what people do is consistent with theory is that they are often unaware of the difference between what they do and their espoused theories. A typical example of this is that, oftentimes, a CEO will say (and possibly be convinced) that the "right" style of command is decentralized, delegating decision power and giving ample freedom to subordinates, listening to their suggestions, and creating a climate of cooperation, not of fear; at the same time, what the same CEO actually does is what is suggested in "Model I." Rather, in times of trouble, they adopt a much simpler theory like "if you want to motivate people to perform, pay them well and inspect their production closely," and then, "few people are aware that they do not use the theories they explicitly espouse, and few are aware of those they do use (…). Thus, they are prisoners of their own theories" (Argyris 1977, 118-120).

One may wonder the following: if people are unaware of the theories that they actually use, then how can they change their behavior by changing a theory-in-use they are not really aware of? Argyris (1991) suggests that effectiveness results from developing congruence between the theory-in-use and the espoused theory. It may actually be impossible. Or being more positive, we may hope that, with double-loop learning, one might get to this developed congruence Argyris wants.

6. Observability, Agency Theory, and Management Control Systems

Some of the most important problems in the field of organization deal with asymmetries of information between the different members of it. Specifically, and toward the end of the twentieth century, in the formal theoretical literature on agency theory, these subjects were studied in some depth. Agency theory analyzes the situation that occurs between a "principal" and "agent," which can be considered the "minimal" problem in organization because it affects only two people, and it is possible (on paper, at least) to develop it further by adding more dimensions. In this section, I show how these problems can be considered both a particular case and application of what Pareto says in relation to nonlogical actions. Also, we will see that some of the recent formulations of both the theoretical agency problem and the managerial practices have gone in the wrong direction, in spite of Pareto's work.

The first (classic) formulation of the formal theory of agency is that of Ross (1972), limits himself to presenting what the problem is: seeing how a person (the "principal") who is interested in some results that can only be achieved through the work of another person ("agent") can try to make the agent feel motivated (in principle, through some type of monetary incentives) to do what it takes to achieve these results.

The practical problem in management control systems (MCS) is to determine the control action that should be taken by the "principal", i.e., what should the "principal" do after knowing what the results of the actions of the "agent" are. Thus, the observability of the results, actions or intentions of the agent plays a crucial role. One of the most cited articles in the theoretical literature of the area is that of Holmstrom (1978), in which he shows how, if only the results are observable, there is a *moral hazard* problem, which means that the possible solutions are not completely efficient, in the sense of Pareto, precisely. The preferable solutions would be those that could be adopted with knowledge of all the variables.

The problem of lack of observability in the determination of the control action, in practice, is the fundamental problem that arises in MCS, as can be seen in Anthony et al. (1988), the classical textbook in the area. The basic idea of the MCS is that, for each person, function, or responsibility, a way of evaluating the performance of this entity is established that allows a "control action" of whatever type (reward or punishment, perhaps). This action should be related to what the evaluated people deserve because they control the variable on which it is based (the controllability criterion). The classical theory of MCS accepts that there is a formal MCS, that is, based on a concrete system whose application, both in terms of the measurement indices and subsequent control actions, are perfectly pre-established. However, and since in reality they are not, an informal (discretionary) system is needed as a complement that goes beyond the formal system and incorporates personal relationships, impressions, feelings (in the broad sense that Pareto gives to this word) and allows the MCS help the organization survive and improve it.

Then, "adding" the informal part to the formal part is reminiscent of Pareto residuals. The whole formal part is like a logical chain that leads to logical actions; if it were not, that reality would go further, which is what Pareto highlights, showing how nonlogical actions are expected in reality because of residues and derivations.

The formal theory of agency began attempting to formalize this type of problem. It was a good start, but later on it has been deadlocked in a formulation which ignores residues and derivations that are not exclusively logico-mathematical and that seems not to be able to advance towards more realistic hypotheses and situations. In a sense, we can say that the theory has pushed back on informal MCS and ignored what Pareto already saw clearly: that beyond engineering and economics, nonlogical actions have to be put into practice.

In recent years, the MCS—partly perhaps because of these theoretical developments intended to give rigor—has pulled back and assembled an almost engineering model: a set of indicators (many of which are far from accurate or objectives) and a system of incentives, relatively strong compared with what there could be in the 1970s and 1980s.

In fact, the article that started this trend is titled "The Balanced Scorecard-Measures that Drive Performance" (Kaplan and Norton 1992). The authors seem to neglect to add "in the wrong direction." In a world without residues, their approach would be correct; in the real world, it is not. Pareto did not intend to give any advice to business managers, but he knew that this kind of advice was not good, if taken literally. When Pareto says that there is a "psychic state" (A), on the one side, and rules, principles, or theory (C), on the other side, and that, in general, they practically never coincide, he is actually talking about something like the following: if A were observable, it could conceivably be exactly reflected in C. Then, of course, whether actions would follow A or follow C would be completely irrelevant. However, in reality, it is not.

Pareto also realizes that, in his words, between "*la cosa*" (the thing) and the "*termini verbale*" (the words), there can be a considerable distance (Pareto 1916, # 638–643). As we will see later, in his rigorous analysis, he begins without using words, only letters meant to be symbols, as a

way to prevent the meaning of the word in ordinary language from contaminating the analysis. This alone makes informal systems and the analysis of illogical actions essential.

7. Selznick and Institutionalization

Philip Selznick, one of the classic authors in the business management literature and in the sociology of organizations, distinguished between "organizations" and "institutions" (Selznick 1957). For him, an organization is a "tool" that has a specific purpose, is useful in some specific aspect, and does not go further so that, at some point, it is expendable; while an institution has what he calls "an infusion of value," which does go further and lasts over time (Selznick 1996), as it is able to turn people involved into "deployable agents," expression that he uses in his book about the Bolshevik party (Selznick 1952). An organization that is "institutionalized" tends to acquire a special character, that is, an identity, hence avoiding decisions that could put it in danger and making the people who participate in it acquire a commitment to the institution in what needs to be done. Therefore, his approach is "a voice of resistance against the culture of short-sightedness" (Selznick, 1957, vi) where the expression "the long run" refers not to time as such but

> to the larger consequences of what we do, that is, the outcomes for basic competence or for personal or institutional identity. For example, how does modern information technology, which vastly increases the opportunity for quick reactions, affect the competence of an organization to develop and sustain strategic perspectives? In speaking of the "long run," we have in mind not time as such but how change affects personal or institutional identity. Such effects are not usually immediately apparent; therefore, we emphasize the lapse of time. However, changes in character or identity easily occur quite rapidly (Selznick 1957, 143).

There are two important points that Selznick draws from Pareto: (1) the characteristics of the people who must lead and (2) the organizational culture.

7.1. Lions, Foxes, and Elites

Regarding the first point, Pareto draws from Machiavelli (1961). Machiavelli was a smart, educated, and clever man, often much more criticized than he deserves in ethical terms, maybe because it is not trivial to see what he considered to be morally good and what he considered to be morally bad. Specifically, in chapter XVIII of "Il Principe" (which is possibly the most quoted chapter of this work) he states that "it is praiseworthy to keep the faith and live with integrity and not with craft," which happens to be the opposite of the view usually attributed to him. The word "craft," however, has some ambiguity with respect to whether it is "good" or "bad"—the original Italian word (*astuzia*) having the same connotations. However, he immediately goes on to say that "our experience has been that those princes who have done great things have held good faith of little account and have known how to circumvent the intellect of men by craft" (Machiavelli, 1961, 82). This is indeed what is conventionally attributed to him. Then, the prince has two ways to fight: with the law (which is the proper of men) and with force (which is the proper of animals); and on many occasions, one must leave "faith" and "laws" and use force like animals. Thus, the prince must imitate the centaurs, who, being half men and half animals, can use their two natures; and the prince must know when to use one or the other. In fact, the animal part must be partly like a fox and partly like a lion because the fox knows how to avoid falling into traps but is not able to defend himself against wolves, while a lion falls into traps but is perfectly able to destroy the wolves. In other words, the prince must act with integrity and not with "craft" whenever possible, but sometimes, it is more effective to use craft.

Four centuries later, Pareto took a similar view while also contemplating evolution over time. He says that, in a society at a given moment, a certain elite dominates, foreseeing how different elites arrive and replace the previous ones in the government of society.

The Pareto elite concept is important. If "in Marx, the distinction of classes is fundamental, in Pareto's sociology that of the masses and the elite is decisive (...) but there are two definitions of elite: a broad one that covers the whole of the 'social elite and a narrow one that applies to the government elite'" (Aron, 1967, 459). As Pareto himself says:

> Suppose ... that in all branches of human activity, each individual is assigned an index that indicates his abilities, more or less the way we would give him points in exams, in the different subjects taught by the center's teachers. For example, the one who excels in his profession, we will give him a 10. The one who does not manage to have a single client, we will give him a 1, so that we can give a 0 to the one who is truly a cretin. (Pareto 1916, # 2027)

Those who fall in the middle will have a grade proportional to their skill, knowledge, or capacity. Then, with those who have the highest indices, we can form a group called the *elite*. As is often the case with Pareto, he remarks that the name is just a name; that is, elite, for him, only means what he has just said: the group of people who, of some subject, know and know how to practice that subject. The implications that this often has today, meaning the economic elite or the rich, are far from what Pareto means. Hence, there are elites who are in government, and there are those who are not. A magnificent chess player, to take his example, will be part of the chess elite but will not be in government. In addition, there are people who are in the elite by deserving it and others who do not deserve it (they are there by marriage, by friendship, or by kinship), which is something that seems inevitable.

Raymond Aron explains it perhaps more clearly: there is a very unequal distribution of material and moral goods, which is possible because "ultimately the few rule the many by resorting to two types of means: force and craft (...) The masses allow themselves to be directed by the elite since it has the means of force or manages to convince, that is to say, always more or less to deceive the many. A legitimate government is one that has succeeded in persuading the governed that it is in their best interest, or their duty, or for their honor to obey the few" (Aron, 1967, 461). A government that resorts to trickery, then—and in agreement with Aron—will not be legitimate because a legitimate government is one who is able to persuade.

This leads Pareto to return to Machiavelli's foxes and lions: political elites are naturally divided into two families: the lions, who prefer brutality, and the foxes, who "lean towards subtlety" (Aron 1967, 461). Pareto argues that an elite cannot perpetuate itself in power because circumstances change, and another elite must come because the one that is there does not know how to solve the new problems that arise and because people get tired of such an elite. So, history is a "cemetery of aristocracies." There is a "circulation of elites," and it is important that, when one elite comes to replace another, they are usually different: if the one that is going out is one of lions, then foxes will be coming in; but the foxes become lions after some time.

Half a century later, Selznick was taking this idea up again in the context of his analysis of institutions, perhaps placing more emphasis on the fact that "lions" and "foxes" must be complementary. That is, it is not enough that they succeed each other, as Pareto demands, but in an institution, there must be, in the positions of high command, a fox and lion, associates, and with good understanding between both, because the skills of both are needed, and it is difficult for one person to have both. Of course, every "competent" lion must be a bit of a fox, and every "competent" fox must be a bit of a lion, but usually, this will be insufficient if there is no other person from the other category to complement it.

Thus, Selznick introduces an additional element: as much as there is a circulation of elites, as Pareto says, at a given moment, there must be both lions and foxes. Normally, of course, the lions will rule, but so as not to stagnate, they need some foxes to bring new ideas. However, if there are only foxes, there will never be enough order and realism for the institution to function and achieve the results that its members desire. The way to carry this out is by having both a lion and fox in the commanding positions of the institution (i.e., two people). One will have more power than the other, and they will alternate in the highest position, as Pareto intends, but the one that has more power needs the help of the other to achieve the institution's goals.

In sum, Selznick builds on Pareto in this aspect, but going a little further.

7.2. Culture, Cult, and the Defense of Institutions

The "larger consequences of what we do", mentioned above, directly impact the distinctive competence of the institution, i.e., its ability to perform actions and obtain results that other institutions or organizations are not able to obtain. And, thus, they create identification of the persons involved with the institution. This is usually done with repeated practices in the institution, dong something over and over again, i.e., giving a good after sale service, or quick delivery, even though it is costly, or taking care of the employees in terms of their professional career and their health care, and many other possible practices which end up constituting the "culture" of the institution.

The parallel with Pareto is found in what he calls "cult," the ritual that a society makes its own and that has a considerable influence over the actions taken. In the square of Figure 2, "B" is this cult, or ritual, which, according to Pareto, acts (weakly) on the actions (D) taken and (more strongly) on "psychical state" A and, therefore, indirectly on the actions. If the results are as desired, cult creates culture, and culture creates cult.

This cult, or ritual, by a given organization has two parts: the dos and do nots. There are actions that must be taken, and there are actions that must not be taken, precisely because such actions create culture and influence the future of the institution. Selznick takes a step forward and states that "the characteristics of the responsible leader can be summarized under two headings: the avoidance of opportunism and the avoidance of utopianism" (1957, 145). Opportunism is the desire to obtain tangible results in the short term, in large part economic, taking advantage of the circumstances without taking into account considerations of the principles and values of the institution.

This is reminiscent of Pareto in terms of lions and foxes or, more precisely, of people who, in the economic world, behave as "rentiers" or "speculators." In category S (which he will later call "speculators"), Pareto places all those people whose income is essentially variable and depends on their ability to find sources of profit while, in category R (which he will later call "rentiers"), he places those who have savings, or properties, or different assets and live on the income they provide. Thus, he reaches a conclusion parallel to Selznick's, albeit in different words:

> So, he who possesses remarkable abilities in economic combinations is not satisfied with a fixed income, which is often rather meager; he wants to earn more; and if he finds favorable circumstances, he passes to the S category. The two categories have different utility functions in society. Category S is mainly the cause of changes and economic and social progress. The R category is, in contrast, a powerful element of stability, which, in a large number of cases, avoids the dangers of possible adventurous movements of the S. A society in which individuals of the R category predominate almost exclusively remains immobile, as crystallized A society where category S individuals predominate, on the other hand, can lack

> stability: it is in a state of unstable equilibrium, which can be destroyed by a slight accident inside or outside. (Pareto 1916, #2235).

According to Selznick, the leadership of an institution must avoid two defects: opportunism and utopianism. Opportunism is the desire to obtain tangible results in the short term, in large part economic, without taking into account considerations of the principles and values of the institution while utopianism consists of avoiding difficult decisions by climbing into abstractions, hence overgeneralizing a purpose in which everyone will possibly agree but that, when one wants to make it concrete, will easily fall into opportunism. Opportunism and utopianism, therefore, can end up provoking each other and endangering the institution (Selznick 1957, 146–148).

Selznick was a prominent figure in the development of organizational theory, especially in the cultural and social aspects that make up institutionalization. Therefore, he believed that organizational behavior could not be fully understood only by considering rational decision-making processes. Instead, he argued that organizations are shaped by a range of cultural and social factors, including power dynamics, values, and norms.

Pareto's ideas about the role of nonrational factors in social phenomena, such as power dynamics and cultural norms (i.e., "cult"), were influential in shaping Selznick's thinking about organizational behavior. In particular, Selznick drew on Pareto's concept of residues, which as we have seen referred to nonrational factors that contributed to social phenomena.

Overall, although Selznick was not a direct follower of Pareto, his work can be seen as part of a broader intellectual tradition influenced by Pareto's ideas about the importance of nonrational factors in understanding social and organizational behavior.

8. Pareto's Methodology

I do not want to end this paper without making a brief comment on Pareto's methodology, what he calls the "logico-experimental" method. He shares this expression with his contemporary Poincaré, who is possibly the one who most popularized the expression. It is the same as the "hypothetico-deductive" method, an expression later adopted by Karl Popper: start from empirical realities and, with logical deduction, arrive at conclusions that are to be verified or falsified.

In fact, the basic idea goes back to Aristotle, who states that "wisdom" (sophia) (σοφία) is the union of "nous" (νοῦς) and "episteme" (ἐπιστήμη). The first concept, nous, is empirical evidence, the axioms of any science that are essentially acquired intuitively, while the second, episteme, is logico-mathematical deduction. Thus, when combined, both constitute sophia, which may be translated as wisdom or science.

Particularly interesting is Pareto's attack on pseudo-sciences and how they are made. Pseudo-scientists start from a reality A and develop a theory T. From such a theory, using arguments that are not entirely logical, they attempt to "establish" the truth of some conclusions C, which generally were already known and that they like (Pareto 1906, #636). Here, we could consider Pareto as an antecedent of Susan Haack (1998) because the "sham reasoning" that Haack attacks has a description very similar to that of Pareto's pseudo-science: a reasoning not intended to seek a truth but to confirm the pre-established truth of a proposition that one wants to defend because the researcher is already doing well. We must hasten to say, however, that Haack follows not Pareto, but Charles Pierce, who was also a contemporary of Pareto and Poincaré. Today, as Haack (1998) claims, we continue to have the problem of pseudo-science in many areas.

9. Conclusion

Pareto's work is rather unusual. He went his own way and, if he has been accused of anything, it is that he did not follow any line of research that was close to those of other researchers. He has been widely analyzed and studied in both economics and sociology, but not in terms of following his line of thought. And, perhaps because of that, this is particularly true in the field of management, with some exceptions like Selznick. Which is a pity, because he did not limit himself to solving intellectual problems: coming from professional practice in engineering he realized how, in economics first and later in what he called "sociology" (but which provides a basis for management), there was much ground to cover that could be useful in practice. And, as we have attempted to show, he can be considered a forerunner of some management theories, even though, in management, practically no one has followed in his footsteps.

This is unfortunate, because by reading his original works, we can see how he dealt with many topics that should be of interest in management today, mainly in the areas we have studied here: command of organizations, bounded rationality in decision-making, the way of exercising power and managing control systems, the exercise of leadership, and the creation of an organizational culture. The potential impact of his ideas does not limit, however, to those we have discussed here: a detailed study might come up with many more.

Pareto essentially wanted to logically understand people's nonlogical actions, and he put together a scheme that, even if it may have some small inconsistencies, can be improved, and expanded to be useful for practical purposes today. Understanding what Pareto says has always been, and continues to be, interesting from the point of view of management.

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