CHAPTER 06

JOSEPH SCHUMPETER AND GABRIEL TARDE ON TECHNOLOGICAL CHANGE AND SOCIAL EVOLUTION

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ABSTRACT

In this paper, we show that the certain elaborations of the French sociologist Gariel Tarde may be traced throughout Schumpeter's works. More specifically, we show that Joseph Schumpeter's views were influenced by the French social philosopher and theoretician Gabriel Tarde who delivered a theory of Social Evolution based on Technological Change as its driving force, closely related to the profiteering function of the economy. Also, we demonstrate that Tarde's approach has striking similarities with the Schumpeterian vision of Economic Development, Change and Social Evolution. But there are similarities in their respective methodological approaches as well. For instance, the most striking similarity is that despite the importance he gave to the social stratum, Tarde, just like Schumpeter's early approach, never fully admitted the determination of the individual's will by the social forces. In other words, they both attempted to explain social evolution by means of individual initiative. At this point it should be mentioned that Tarde's theory has been delivered and published about a decade before the publication of the first edition of Schumpeter's influential *Theory of Economic Development.* In this context, much of this similarity in visions could be attributed to Schumpeter having carefully read Tarde and, probably, to certain common intellectual sources of influence. Part of the explanation why this similarity in visions has been inadequately acknowledged, so far, lies in the ignorance of the approaches on which Schumpeter built his treatises. In this framework, after examining the affinities of Schumpeter's work with Gabriel Tarde, it is evident that certain Schumpeterian elaborations appear to be less unique.

Keywords*:* Schumpeter, Tarde, evolution, invention, technology, individualism
JEL classifications: B15, B25, B31, B52

I. INTRODUCTION

Joseph Alois Schumpeter is regarded as one of the most influential economists of all time who had a major impact on the development of *Economics* in the twentieth century. For instance, Haberler (1950: 1) argued that Joseph Schumpeter "*was one of the greatest economists of all time*". In fact, it is nowadays becoming increasingly evident that Joseph Schumpeter is among the most prominent theoreticians who will probably shape the thinking on economics for the next decades.

However, important aspects of his works remain unexplored. In this context, Schumpeter's affinities with other great theoreticians have been inadequately acknowledged, so far. Although there is no "*systematic study of influence in the economics profession*" (Leeson, 1997: 637, emphasis in the original) there is one serious reason why studying the potential influences on Schumpeter is of great interest. Given that he was a major economist who wrote extensively on economic and social evolution, the study of his affinities with other great social philoso-

phers and theoreticians is an important key for understanding his writings.

Affinities can be shown in many ways. One of the most common is when an author shows traces of the thinking or consistently uses the contributions of authors in his work (Senn, 2003: 142). In this sense, what were the affinities of Gabriel Tarde's and Joseph Schumpeter's ideas on technological change and social evolution?

Obviously, understanding the origins of these important ideas and re-evaluating the influences that might have shaped them could be very useful for promoting dialogue between *Economics* and *Sociology* and clarifying several issues. More precisely, this paper makes an attempt to interpret certain parts of Joseph Schumpeter's voluminous *oeuvre* in association with the writings of the French social theoretician Gabriel Tarde. This article is part of a larger project investigating Joseph Alois Schumpeter and his affinities with other great theoreticians and/or schools of thought (see, for instance, Michaelides & Milios, 2004; 2005a; 2005b, Michaelides et *al.,* 2007a; 2007b; 2007c; 2008; 2009a; 2009b; 2009c).

Following Shionoya (2005: ix), we would like to affirm the following thesis, which has been the point of departure of our investigation: "*Even if the core of a certain idea were identified in the continuous and discontinuous process of the filiation and ramification of thought, it is still possible to trace its predecessors, successors, and sympathizers in different directions*". Of course, it is the case that tracing these paths for many of the economic and social theories is usually quite difficult.

The paper is structured as follows: section two (II) offers a very brief biographical presentation of the two theoreticians' life and work; section three (III) explores the role of technological change and development in their respective writings; section four (IV) presents their respective views on the concepts of determinism and individualism; finally, section five (V) concludes the paper.

II. BRIEF BIOGRAPHICAL NOTES: JOSEPH SCHUMPETER & GABRIEL TARDE

Joseph Alois Schumpeter (1883-1950) was born in the Austrian part of Moravia (then the Hapsburg Empire) and died in Taconic, Connecticut. He was educated at the Theresianum, a deeply aristocratic school where "Schumpeter never felt that he quite belonged" (McCraw, 2007: 18). In 1901 Schumpeter enrolled in the faculty of Law at the University of Vienna and continued his studies in Berlin and London. In 1906, he took the degree *Doctor utriusque iuris.* In 1909 Schumpeter became an Assistant Professor at the University of Czernowitz (Kirsch, 1979: 143). Between 1911 and 1919 he taught Political Economy as a Full Professor in Graz, while in 1913 and in 1914 he was an Exchange Professor at Columbia University. In 1918, Schumpeter became member of the *German Socialisation Commission (Sozialisierungskommission),* and in 1919 he was appointed Minister of Finance in the government formed by the Social Democrats (Haberler, 1950: 346). In 1921 he became president of *Biederman Bank* in Vienna, and in 1924 after the great inflation in Germany he accepted a professorship at the University of Bonn in Germany in 1925.[223] From 1932 until his death in 1950 at the peak of his fame he taught at Harvard University, and he served as president of the American Economic Association.[224]

223 In the summer of 1926, Schumpeter lost his beloved mother, his (second) wedded wife, and his (newborn) son. Based on Schumpeter's diaries, it is often argued that his meticulous output was due to "isolation and self-doubt" that was enhanced by the death of his wife and son that made him use academic work "as a means of harnessing his personal grief' McCraw (2007: 345, 160).

224 It is worth noting here that although he was world famous by that time, Schumpeter was also penniless. As McCraw (2007: 4) stressed, Schumpeter had to make paid speeches in order to be able to buy his transatlantic ticket.

Schumpeter's writings cover a broad range of topics such as the dynamics of economic and social evolution (e.g. *Theory of Economic Development,* 1912, and *Business Cycles,* 1939), the integration of economic, sociological and political perspectives with regard to capitalism (e.g. *Capitalism, Socialism and Democracy,* 1942) and, last but not least, the history of economic ideas (e.g. *Economic Doctrine and Method,* 1914, and *History of Economic Analysis,* 1954). On the other hand, Gabriel Tarde (1843-1904) was born in Sarlat, Dordogne (France) where he engaged in legal studies and became *Juge d' instruction*. He was a student of human nature who was particularly interested in the explanation of motives. Very early in his career he realized not only that motives may be resolved in terms of belief and desire, but also that, under certain circumstances, they could even be "measured", in an approach where everything is "calculable" and never unexpected.[225] In this context, Tarde's *La croyance et le desir, possibility de leur mesure* (1880) in *Revue Philosophique* is regarded as a significant contribution in the literature.

Imitation as a motive force of change attracted Tarde's attention from the very beginning of his scientific endeavor. Meanwhile, he proceeded to the study of the evolutionary theory as held, for instance, by Darwin and Spencer, including the evolution of institutions (Giddings, 1903: iv). He noticed the overwhelming presence of imitation in most spheres of the human action. To a sharp philosophical mind like Tarde's, it was pretty obvious that there was some sort of a broader socio-psycho- economic immanent regularity (i.e. "law" of imitation), worth investigating. This is why Tarde is regarded as a theorist of imitation emphasizing *invention* as the driver of *imitation*, borrowing, thus, from Leibniz and Cournot a mechanical explanation of reality.

Tarde published several articles in *Revue Philosophique* between 1882 and 1884, such as *Les Lois de limitation, Les Traits communs de la nature et de lhistoire, L'Archeologie et la statistique* and *Qu'est-ce quun societe?.*[226] Gabriel Tarde's philosophical system is exposed in a series of lectures at the *College Libre des Sciences Sociales* in 1897. These lectures (structured in three parts i.e. *The Repetition of Phenomena, The Opposition of Phenomena* and the *Adaptation of Phenomena)* were published under the title *Les Lois Sociales* (1898). In what follows, our attempt intends only to provide an overview of Tarde's influence on Schumpeter, from the theoretical and methodological perspective. As a result, in this paper, the connections between Schumpeter and Tarde are sometimes primarily substantive (as in the section on Technological Change, etc.) and sometimes primarily methodological in nature (as in the section on Individualism, etc.).

III. TECHNOLOGICAL CHANGE AND DEVELOPMENT

Gabriel Tarde was a visionary social philosopher. In a lecture given to the *Society of Sociology* in Paris (June 11, 1902) he made a serious attempt to explain social evolution. According to Tarde successful initiatives signify the drivers of social evolution. The direction of the evolutionary path depends on small insignificant (on their own) random forces, which are combined with new forces creating, thus, a new sort of periodical reproduction of the system. In his own words: "*In all these instances it is seen that great, constant forces are given a direction by small, accidental, new forces, which, by being grafted on the first ones, set into motion a new kind of a periodic reproduction. Upon repetitions is grafted a variation, origin of new variations*" (Tarde, 1902: 1).

225 This discovery had been made before the seminal contributions by Bentham, Cournot, Menger, Walras and Jevons.

226 Other articles setting forth the same underlying principles and formulating ideas shaped by the Tarde's professional experience were later integrated in his 1891 books *La criminalite comparee* and *La philosophie penale* (Giddings 1903).

Furthermore, *evolution and change* are made possible through *invention* based on *repetition.* Repetition consists of elements such as the climate, the sun, the race, as well as by tradition, custom, ideas, and acquired attitudes. In fact, climate and race are characterized by *periodical* movements (tide-winds and successive hereditary generations of the same race, respectively, etc), whereas, tradition, custom and ideas, are characterized by *imitative* repetitions, transmissions of examples. According to Tarde (1902: 1): "*social transformations are explained by the individual initiatives which are imitated, I do not say that invention, successful initiative, is the only acting force, nor do I say that it is actually the strongest force, but I say that it is the directing, determining, and explaining force*".

This argument reminds us strongly of Schumpeter whose work is "*a comment, from constantly varying viewpoints, on a single affirmation: every aspect of social life is continually being transformed under capitalism*" (de Vecchi 1995, 3). For Schumpeter development is mostly the result of innovation, i.e. "*the outstanding fact in the economic history of capitalist society*" (Schumpeter, 1939: 61). For him, innovation is the leading force in what he calls "*evolution*". Evolution is however discontinuous because of a discontinuity in the introduction of major innovations into the economic system. However, Schumpeter's concept of innovation was different than what is generally assumed because he stressed that innovation *per se* is not a force in economic development. Rather, the real force in economic development is the *consequences* of these innovations (Schumpeter, 1928).

These consequences make innovations a force in the economic system and innovations which do not produce these consequences cannot be a force in the economic evolution of a social formation. According to Schumpeter, development depends primarily upon productivity increases based on innovation. More precisely, for Schumpeter this concept covered the following cases: "*1. The introduction of a new good [...] or a new quality of a good. 2. The introduction of a new method of production [...]. 3. The opening of a new market [...]. 4. The conquest of a new source of supply [...]. 5. The carrying out of the new organisation of any industry*" (Schumpeter 1912, 66). In this spirit the great Austrian thinker Joseph Schumpeter used the term 'technological progress' to characterize the changes (Scherer, 1992: 1417), which account for the greater part of economic development.

Of course, the hero of his story was the entrepreneur who initiated change. In other words, in the Schumpeterian evolution begins when an exceptional entrepreneur introduces an innovation. Actually, innovations produce *qualitative* changes in the system: *"[The] historic and irreversible changes in the way of doing things we call "innovation*", and we define: "*innovations are changes in production functions which cannot be decomposed into infinitesimal steps*" (Schumpeter, 1935: 4). In fact, Schumpeter defined economic development as "*such changes in economic life as are not forced upon it from without but arise by its own initiative, from within*" (Schumpeter, 1912: 63). According to Schumpeter, economic development is accompanied by growth, i.e. sustained increases in national income; however, quantitative growth does not constitute development *per se*. He wrote: *"[W]hat we are about to consider is that kind of change arising from [...] the system which so displaces its equilibrium point that the new one cannot be reached from the old one by infinitesimal steps. Add successively as many coaches as you please, you will never get a railway thereby*" (Schumpeter, 1912: 64, emphasis added).

Tarde suggested that by placing ourselves in a society already organized and alive, having its own language, a political and economic regime in embryonic form, as well as customs and habits we are in a position to examine the origins of modern society; we are about to examine why and how its language or the government, religion, morality, art and other beliefs could be modified in a given moment. "*The only means that could clarify the problem of origins, in all aspects, is to place ourselves, from the beginning, in medias res and to seize the action of forces that later could serve to explain the formation of things, the*

transformation of which they primarily explain" (Tarde, 1902: 2).

In Tarde's analysis, we may detect a fundamental element of Schumpeter's idea on the conflict between routine and innovation, characterising the circular flow. In a similar to Tarde's vein, Schumpeter started all his analyses with a treatise which, excluding any innovative activities, led to a stationary state. The stationary state is, described by Walrasian equilibrium taking account of the interdependences of economic variables but applicable only to a stationary process, i.e. one which adapted itself to forces acting on it. However, just like Tarde implied too, the examination of a static system is not worthless because in the short run, when most of the dynamic factors can be considered as being fixed, it is not devoid of explanatory power.

In Schumpeter's (1939: 40-41) words:

> *We may thus visualize an economic process which merely reproduces itself at constant rates; a given population, not changing in either numbers or age distribution [...] the tastes (wants) of households are given and do not change. The ways of production and usages of commerce are optimal from the standpoint of the firm's interest and with respect to existing horizons and possibilities hence do not change either unless some datum changes or some chance event intrudes upon this world.*
>
> *No other than ordinary routine work has to be done in this stationary society, either by workmen or managers. Beyond this there is, in fact, no managerial function - nothing that calls for the special type of activity which we associate with the entrepreneur [...] Such a process would turn out, year after year, the same kinds, qualities and quantities of consumers' and producers' goods; every firm would employ the same kind and quantities of productive goods and services; finally, all these goods would be bought and sold at the same prices year after year.* (Schumpeter, 1939: 40-41)

The author stated that the mechanistic repetition of acts –which reminds us of Tarde's mechanistic approach based on Cournot and Leibnitz– was based on the accumulated experience of man (Schumpeter, 1934: 84-85): The entrepreneurs took the same decisions. The income was paid to consumer goods already produced. Any supply was counterbalanced by its own demand at the level of prices which covered the unit cost. Money could be absent without deforming the economic phenomena. Apparently, the economic stratum could only alter under pressure. Schumpeter described this equilibrium as "*stationary flow*" (Schumpeter, 1912: ch. 1) characterized by the absence of any change. He made clear that this "*stationary flow*" is only a theoretical abstraction and serves as a reference point (Schumpeter, 1928). Yet, while Schumpeter was a great admirer of Walras's scientific method and technique, he believed that this vision of the economy was incomplete in that there should be a source of movement within the economic system, i.e. innovation.

Tarde proceeded further in search of the laws of invention and individual innovation. He distinguished between theoretical and practical inventions:

— *Theoretical inventions:* Mythological conceptions, Philosophical systems, Hypotheses, Scientific discoveries.

— *Practical inventions:* Verbal innovations (neologisms), ritual innovations, industrial innovations, military innovations, political innovations, judiciary innovations, artistic and literary innovations.

Theoretical innovations make their appearance, logically and chronologically, before the practical ones. Another interesting distinction was that there are inventions that cannot pos-

sibly be substituted, while others that can be substituted. Analytically, only the theoretical (e.g. scientific) discoveries cannot be substituted; the practical (e.g. industrial) inventions are often replaced (Tarde, 1902: 4).

Tarde emphasized the fact that inventions come from a new combination of already existing resources and concepts, i.e. from imitation. "*Every machine consists of old tools, old methods, combined in a different way"* (Tarde 1902, 5, emphasis added). In this context, Tarde believed that even the most genius poet or artist does nothing more than combine in a different way the processes already known, ancient rhythms and rimes, and provides his personal stamp in expressing his sentiments or ideas that are as old as the world itself: "*The most genial among the poets and artists combines in a different way previously known art, methods, combined in a different way*" (Tarde, 1902: 8, emphasis added).

Tarde concluded that the great poets (like Hugo and de Lamartine) had been inventors and creators because, although they originally imitated, they knew how to turn the innumerable examples they had in hands into a nice new output based on existing realities (Tarde, 1902: 8).[227]

In any case, invention consists of a work of logic and teleology: it is judgment, reasoning, deduction and adaptation. Of course, "*At the source of a new invention there is something else than just combined imitations of prior inventions. There is the main originality of this combination*" (Tarde, 1902: 6). Without this "*there would be no change in the channels of the flow (from the same to the same) no change in the production function (from equations to equations)*" (Taymans, 1950: 618). The innovating forces are also *new* to the extent that they are grafted upon the old ones (Tarde, 1902: 1).

Joseph Schumpeter distinguished the process of development from growth due to the gradual increase in population and capital and –in a strikingly similar to Tarde spirit– wrote:

> *The slow and continuous increase in time of the national supply of productive means and of savings is obviously an important factor in explaining the course of economic history through centuries, but it is completely overshadowed by the fact that development consists primarily in employing existing resources in a different way, in doing new things with them, irrespective of whether those resources increase or not* (Schumpeter, 1942: 65, emphasis added).

He wrote: "*Carrying out a new plan and acting according to a customary one are things as different as making a road and walking along it*" (Schumpeter, 1912: 85). In this spirit, as is well know he labelled the carrying out of new combinations "*enterprise*" and the individuals who carried them out "*entrepreneurs*", whereas "*entrepreneurs*" cannot simply do this when they are confronted by new tasks because while in the accustomed channels their own ability and experience suffice, when confronted with innovations, they need guidance (Schumpeter, 1912: 79-80). In another formulation, while they are obliged to swim with the stream in the circular flow, they have to make an effort to swim against the stream if they wish to change its channel (Prendergast, 2006: 255). Thus, "*It follows that novelty needs to be forced upon*

227 The difference between the scientific and the artistic, aesthetic invention is that in the first case the state of mind of the inventor plays a secondary part and the objective element keeps the dominant part, whereas it's inversed for the second case. Nevertheless, in both cases the indispensable condition is the encounter of the 'imitative rays' *(rayons imitatifs* according to Tarde's expression) within the minds, impressed in a certain manner by the external environment, the nature. Thanks to this direct and brilliant contact with the nature, two known ideas, that until then seemed having nothing to share, appear as attached with each other by a liaison of a consequence principle or by a liaison of means to an end or different means to a common end. Newton, e.g., conceived the fall of a body and the Lune's gravity around Earth as two identical phenomena, consequences of the same principle, i.e. the universal attraction. By seeing the magnetic needle's deviation H. C. Oerstedt and A.-M. Ampere conceived magnetism and electricity like two variables of a common force, and this discovery that identified two forces until then considered as stranger to one-an-other was enough to produce later the invention of the electric telegraph when it was combined within other brilliant minds with the already ancient need of long distance mental communication and it seemed to them as the best way of achieving this goal.

the majority of economic agents, as progress in general is basically a result of force and confrontation" (Ebner, 2006: 504).

Schumpeter defined production as the combinations or materials and forces that are within our reach (Schumpeter, 1942: 65). However, in the general case, the producer *is not an inventor.* Following Scott's formulation: "*Schumpeter emphasized the role of the entrepreneur in development. By definition, he is the man who sees that the new combination is made. He is to be distinguished from the capitalist (who bears the risk) and from the inventor (who has the ideas), although it is possible for one man to be all three*" (Scott, 1989: 104).

Apparently, based on the aforementioned Schumpeterian analysis it could be argued that nobody (not even Schumpeter himself) would probably mind too much the use of "*invention*", instead of "*innovation*" as referring to the ultimate cause of evolution given that this is exactly what Tarde meant by the term "*invention*". After all, the term "*innovation*" first appeared in Schumpeter's *oeuvre* in 1927 (Taymans, 1950).

IV. DETERMINISM, INDIVIDUALISM, AND DEVELOPMENT

According to Tarde's analysis the evolutionary path depends on small insignificant (on their own) *random* forces, which are combined with new forces creating, thus, a new sort of periodical reproduction of the system. In his own words: "*In all these instances it is seen that great, constant forces are given a direction by small, accidental, new forces, which, by being grafted on the first ones, set into motion a new kind of a periodic reproduction. Upon repetitions is grafted a variation, origin of new variations*" (Tarde, 1902: 1, emphasis added).[228]

We need to clearly see that all social phenomena have as their elementary causes inter-corporal and inter-mental actions, embraced by sociology in their complex totality of these two sorts of actions, but also that inter-mental actions explain the inter-corporal ones and allow for the formulation of general sociological laws.

The directing forces are, therefore, *accidental;* they are not "*measurable*" (calculable) and they are not automatically produced by a number of circumstances. The innovator/inventor does not behave under a given pattern of methods. His adaptive behavior that consists of a reaction to a given set of conditions proceeds by a causal connection determined and described by theory (Taymans, 1950: 619).

Does Trade exaggerate when emphasizing on the "*accidental*"? If each invention taken separately is accidental, if we always have the right to say that it could emerge too soon or too late and in a different part of the world, it is not less true to claim that the ensemble of their sequence is regulated by *general* laws, the ones relative to the probability of the inventions. These laws had been a constant pursuit and intent for Tarde. He had conceived a complete philosophy of phenomenal existence and he rapidly converted it into literary embodiment.[229, 230]

228 Given a group of brains in mental contact, when one of them conceives an idea or a new action, and when this idea or action seems to be of superior quality, it will certainly communicate itself to three, four, ten persons around; and each of them, in turn, will spread it around him, and so on until the limits of the group are reached. This will at least be the tendency, although often stopped by obstacles or contradictory tendencies (Tarde, 1902b: vol. 1, 23-24). In a footnote to this passage Tarde raised the question of the determination of the limits of the groups; he referred to the multiplicity of *esprits de corps* –religious, political, professional, domestic, national– which rather limit the spread of both ideas and action (Hughes, 1961: 556).

229 The first edition of his famous *Les lois de l' imitation* appeared in 1890 and a second in 1895.

230 In relation to total inventions Tarde refers to Breal's *Semantics,* a French-Jewish philologist, born in Bavaria who is often considered as the founder of modern semantics. Who invents the new meaning instantly forgets the antecedent meanings, except one single of the fact that the association of ideas always come in twosomes (couples) (Tarde 1902, 6).

Every invention profoundly is a judgement, the reunion of two terms by copulation. And this consists of the elementary and necessary step the spirit must take. There isn't but a single line, a unique series of inventions carried out by a logical deduction: there are, beginning from each invention, millions of following possible inventions, but not all of these being materialized; just few of them (Tarde, 1902: 10).

If we wish to understand the linear series of the real inventions, we should also take into account the set of all possible inventions. "*Real is nothing but a case of possible; and it is not only in Mathematics that the calculation of the imaginary quantities is necessary for the calculation of real quantities. All discoveries carry the infinity of other discoveries within their folds, but not all of them come out of it*" (Tarde, 1902: 10). It is important to consider all possibilities that led to an abortion, so that we avoid committing the vulgar error of believing in single-linear formulas of social evolution.[231]

Furthermore, *evolution and change* are made possible through *individual invention* based on *repetition:* "*social transformations are explained by the individual initiatives which are imitated, I do not say that invention, successful initiative, is the only acting force, nor do I say that it is actually the strongest force, but I say that it is the directing, determining, and explaining force*" (Tarde, 1902: 1).

The individual creator owes to society and social collaboration even his brightest individual creation. *Societal* is, according to Tarde, nothing more than the accumulated *individual* (Tarde, 1902: 6). Thanks to the imitative diffusion the superior or singular individual is not working but for the collectivity where it belongs. The main part of the individual tends to collectivize, to socialize (Tarde, 1902: 11). Will there ever be an increasingly declining need for the necessity of superior individuals? Tarde's reply is negative since the easier inventions are the ones to emerge first, providing an explanation of why there are inventions (innovations) that appeared simultaneously in the past, independently the one from the other in various parts of the world (Tarde, 1902: 11).[232]

These discoveries, according to Tarde, are made by individuals and these discoveries are interconnected and philosophically interwoven, with other individuals. In fact, what makes the world go round, according to Tarde, in not *great men,* but rather *great thoughts.* For instance, some of the most significant discoveries in mathematics and science such as the concept of "*zero*", are anonymous, originating in very obscure individual personalities (Tarde, 1902: 3). But this might be considered as a very superficial perspective of reality.

In *The Laws of Imitation,* he endeavored to point out in all possible clarity the *purely social* aspect of most human phenomena, as distinct from their vital and physical characteristics. Tarde claimed that the laws of a pure sociology apply to every society, past, present or future just as the laws of general physiology apply to all species, living, extinct or imaginary (Tarde, 1903: ix-x). Tarde was accused of *Psychologism* because he built several of his analyses on the psychology of the individual. Most economists and sociologists

231 "For an invention M to bloom" we should keep in mind that the elementary inventions A, B, C ..., and so on, should have been previously effectuated since they consist of the combinatory accessories and parts contributing to the invention of M. Therefore, the imitative propagation of A, B, C should have been rapid and spread on a vast territory and in a dense population; furthermore, it should have the chances that their rays interfere within the willing mind. On the other hand, with a given certain field of expansion of these elementary inventions, the more the race is fertile in individual varieties, in individual profound and outstanding inequalities, thanks to crossbreeding, intermarriages, the more there will be chances that the brain *singularity* required by the fruitful combination of the imitative rays A, B, C.and so on, is materialised and in turn materialises this combination" (Tarde 1902, 2). Clearly thus, the change is due to the innovator, i.e. the inventor.

232 As societies facilitate the imitative expansion of ancient inventions, the difficulty of new inventions becomes harder, due to the same reason that, in the same way of quarrying a single mine, the extraction of new fossil becomes harder to attain (Tarde 1902, 12).

were unwilling to accept his attempts to construct a social science on what went on in the (individual) human mind.[233]

On this subject, Schumpeter shares several common insights with Tarde. As is well known, in the second edition of *Theory of Economic Development* where Schumpeter omitted the seventh chapter and rewrote the second, several writers, such as Shionoya 1997, 167-71, argued that the changes detected signify a shift of emphasis (or a *paradigm shift)* with regard to entrepreneurial leadership in the Schumpeterian *oeuvre.*

More precisely, in the first edition, the entrepreneurial leader was described as dynamic man, and the concepts of innovation and credit were introduced as the form of economic development and its means, respectively (Prendergast, 2006: 259). In other words, in his early writings Schumpeter advocated "methodological individualism" (Shionoya, 1990: 202), which gave priority to an *atomistic* view of society over a *holistic* one. For Schumpeter (1908: 91) who originally coined the term, *methodological individualism* "*just means that one starts from the individual in order to describe certain economic relationships*". Of course, according to Hodgson (2007), methodological individualism is neither a universal principle of social science nor an obligatory rule for all social scientists According to the same author, Schumpeter (1954: 888) invented the term "*sociological individualism*" to describe "*the doctrine that the self-governing individual constitutes the ultimate unit of the social sciences*". Regardless of the fact that there is no broad consensus on the sense and usage of "*methodological individualism*", the term "*sociological individualism*" coincides with what many theoreticians, nowadays, describe as "*methodological individualism*" (Hodgson, 2007).

In the second edition of *Theory of Economic Development,* the importance of the entrepreneurial leader was reduced. In fact, Schumpeter in his mature works changed considerably his conception of innovative activity and leadership (see, among others, Swedberg, 1991: 172-3; Prendergast, 2006: 261). A major manifestation of this shift is the fact that in his *Economic Theory and Entrepreneurial History,* Schumpeter (1949: 51) was sincere enough to admit that "*the entrepreneurial function need not be embodied in a physical person and in particular in a single physical person*".

According to Schumpeter, individualist initiative was necessary for social evolution and economic development. In fact, in 1910, Schumpeter had already stressed emphatically, contrary to established theoreticians, that the "*herd of consumers*" needed to be "mastered and guided" by the "leading personalities" of the production sphere (Schumpeter, 1910: 51). In this context, *"[L]eadership [...] does not consist simply in finding or creating the new thing but in so impressing the social group with it as to draw it on in its wake*" (Schumpeter, 1912: 88). Here, we stress the fact that for Schumpeter, economic development involved a process of creative destruction in which a special kind of action was necessary to initiate change. In Schumpeter's own words entrepreneurship is "*essentially a phenomenon that comes under the wider aspect of leadership*" (Clemence, 1951: 254-5).

As is well known, according to Schumpeter, the entrepreneur was motivated by : (a) "*the*

233 In this context, Tarde's *La Psychologie economique* was not well received by most economists, whereas sociologists had mixed feelings about it. For instance, the *Revue Phi- losophique* published two critical reviews, one by an economist and the other by a sociologist. The Belgian economist Mahaim (1903) criticised *La psychologie economique* in Charles Gide's *Revue d'economie politique.* In particular, he eulogized Tarde's elaboration of the concept of need *(besoin)* as the desire of something believed to be part of our well-being. However, he raised serious objections to Tarde's definition of capital even though he admired the theoretical construction behind it. In this spirit, Mahaim, argued that Tarde greatly exaggerates the role of individual psychology and knowledge in relation to material things and his critique of the economic theories of capital, based on the relevant concepts, were not to the point. This was so, because *knowledge* was implicitly incorporated in economic theory in labor as a factor of production (Mahaim, 1903: 24-25). Anglo- Saxon economists who read the French text rejected Tarde's criticism of the economic man and concluded that there was no need to revise economic theory on the basis of his thinking (Davis, 1902; Hamilton, 1903; Veblen, 1902).

dream and the will to found a private kingdom, usually, though not necessarily, also a dynasty" (Schumpeter, 1934: 93); (b) "*the will to conquer: the impulse to fight, to prove oneself superior to others, to succeed for the sake, not of the fruits of success, but of success itself*" (Schumpeter, 1934: 93); (c) the joy of creating, of getting things done, or simply of exercising one's energy and ingenuity (Schumpeter, 1934: 93). In other words, entrepreneurial profits are viewed as means to achieve further ends and, thus, "*entrepreneurship is driven by motivations that are alien to the rationalist foundations of capitalist civilization*" (Ebner, 2006: 504). Moreover, according to the same author (Ebner, 2006: 504), for Schumpeter the motives of ordinary economic agents in the circular flow "*were not based on rational choice and egoistic hedonism, but on habits that were meant to satisfy given wants that are also shaped by the social environment*".

In his mature work *Capitalism, Socialism and Democracy* Schumpeter took a very different view. In fact, he argued that capitalism would be "*killed*" by a hostile atmosphere to its own social order and –surprisingly enough– *not* by economic failure. In fact, Schumpeter claimed that the bureaucratization of the big enterprise, with the transformation of entrepreneurial activity into a routine process conducted by managers and technical employees, would lead to the final decline of the big enterprise and thus of the capitalist economic order.

For Schumpeter the entrepreneurs constantly renewed the capitalist class, as the more successful among them systematically showed the propensity of becoming capitalist-owners themselves (Schumpeter, 1912: 78-9). Only the bureaucratization of the big enterprise, through the subordination of the entrepreneurs to managers, could lead trustified capitalism to socialism: "*The perfectly bureaucratized giant industrial unit [...] ousts the entrepreneur and expropriates the bourgeoisie as a class which in the process stands to lose not only its income but what is infinitely more important, its function*" (Schumpeter, 1942: 134). "*Thus, the same process that undermines the position of the bourgeoisie by decreasing the importance of the functions of entrepreneurs and capitalists, by breaking up protective strata and institutions, by creating an atmosphere of hostility, also decomposes the motor forces of capitalism from within*" (Schumpeter, 1942: 161-62).

Schumpeter defined socialism as "*an institutional arrangement that vests the management of the productive forces with some public authority*" (Schumpeter, 1942: 113), and claimed that "*the modern corporation [...] socializes the [...] mind*" (Schumpeter, 1942: 156). Furthermore, he argued that the "*bureaucratization of economic life*" (Schumpeter, 1942: 206) allows the transition to a socialist but "*bureaucratic apparatus*" by establishing new modes of managerial responsibility and selection that "*could only be reproduced in a socialist society*" (Schumpeter, 1942: 206-7).

In simple words, a basic argument of *Capitalism, Socialism and Democracy* is that the entrepreneur becomes less and less important, and consequently the process of economic development comes to halt and capitalism gives way to socialism. Schumpeter gave two reasons for the gradual disappearance of the entrepreneur:

> *For, on the one hand, it is much easier now than it has been in the past to do things that lie outside the familiar routine - innovation itself is being reduced to routine. Technological progress is increasingly becoming the business of teams of trained specialists who turn out what is required and make it work unpredictable ways. The romance of earlier commercial venture is rapidly wearing away, because so many more things can be strictly calculated that had of old to be visualized in a flash of genius. On the other hand, personality and will power must count for less in environments which have become accustomed to economic change –best instanced by an incessant stream of new consumer's and producer's goods– and which, instead of resisting, accept it a matter of course* (Schumpeter, 1942: 132).

Besides a less individualistic approach to the concept of entrepreneurial leadership (Schumpeter, 1951: 153), Schumpeter's late writings seem to admit the limits that social reality imposes on the leader's activity, a thing which shows that, for Schumpeter, the choices open to individuals are indeed limited and, it is in this spirit, that his mature writings revealed this awareness that society moves of its own momentum and that leaders are largely constrained by the existing social stratum (Prendergast, 2006: 261).

However, Schumpeter still stressed the importance of individual entrepreneurs, albeit in a different institutional setting: e.g. a production engineer in the R&D department of a large firm could be regarded as an "*entrepreneur*" in Schumpeter's sense of the word. Thus, despite envisaging the demise of the entrepreneurs and their partial replacement by a new mode of economic organization, he never abandoned his initial model of the entrepreneur as the agent of change (te Velde 2001: 24).

V. DISCUSSION AND CONCLUSION

To sum up, it is surprising that extremely limited attention has been paid to Gabriel Tarde as an intellectual source for Joseph Alois Schumpeter, given the presence of central elements of the flamboyant economist's vision in the works of the French sociologist. This paper argued that Schumpeter formulated some of his principal theses in accordance with the conceptual framework of Gabriel Tarde, given that the parallels are undeniable, and the matching of certain concepts impressive.

Analytically, strong parallels were found with respect to forces driving the evolution of the system and the role of technology. Also, we compared Tarde's and Schumpeter's visions emphasizing the role of the 'entrepreneur', and the 'stationary state'. Finally, Schumpeter's 'entrepreneur' was viewed in the context of the Tardean approach of 'individualism' stressing the inevitability of 'socialism'.

Furthermore, Tarde focused, among other things, on the fundamental role of Psychology, looking for the consequences at the societal level, of psychological phenomena observed at the individual level, thus bridging the gap between macro- and micro-level problems. In an attempt that reminds us of the *German Historical School,* Tarde built a system that he saw as applicable to all social sciences, but he was realist enough to see that this was practically impossible. His ideas were germinal and suggestive but needed more cultivation. His dealing with *Economics* was practically an extension of his ideas on societal structure to political economy.[234]

Tarde thought that *Economics* did not furnish solutions to many of the current problems of population growth, employment or migration. The main reason for the inadequacy of economic theory was its basis on Psychology with a strong preference for simple *hedonic calculus.* For instance, in his *Psychologie economique* (1902b, 119-121) Tarde claimed that leisure and the consumption of goods go hand in hand; and not merely that goods are consumed in time of leisure but also that in leisure there often occurs a "*conversation of brains*" (minds) out of which new wants and desires emerge (Hughes, 1961: 557).

Economic theory at the end of the 19th century was discovering subjective utility which Tarde advocated. By some economists he was recognized as one of the early promoters of the concept. However, they hardly ever appreciated the fact that Tarde attempted to explain subjective utility by means of a motivational conflict theory, involving beliefs and desires (Roche-Agussol, 1926).

234 In the 19th c., social scientists felt that the new capitalist society brought problems that had to be dealt with in new ways and that this was the responsibility of the social scientists, i.e. of political economists and sociologists.

What has survived nowadays of Tarde's ideas is probably related to the imitative use of invention. Tarde's influence on modern research on the diffusion of innovation is recognized by many authors in the field (Rogers, 1962; Kinnunen, 1996; Katz, 1999, Warneryd, 2008). Katz (1999) complained that the diffusion of innovation research no longer had any theory that, like the one developed by Tarde, could bridge the theoretical disciplines involved.

Despite Schumpeter's early romantic dream of developing what he called "*exact economics*" (McCraw, 2007: 5), it is true that the basic differences between Schumpeter and Tarde, on the one hand, and other great economists and sociologists, on the other hand, go much deeper than plain and simple mathematical theorems and other technicalities. They saw a different economic and social reality. Both men argued that a modern socio-economic system is always in (dis)equilibrium in the sense that it is forever changing and is rather open than closed in nature and constantly interacting with societal and even physiological factors. Of course, such an approach to reality is mostly ignored, in large part because it is too difficult to formalize, i.e. to fit into the maximization *paradigm* that dominates *Economics* as a science (McCraw, 2007: 500).

Meanwhile, most classical economics and social philosophers considered innovations to be an "*exogenous factor*", which have profound influence on the economy as a whole but are not part of *Economics* as a science. However, Schumpeter and Tarde argued that *innovation and invention, respectively,* is the very essence of the socio-economic system which led to their perception as *the* subject of economics and social evolution.

To conclude, we may say that, based on the available material and given the profound similarities in their respective theses, the fact that Tarde was Schumpeter's senior by forty years and the fact that he died (after having published all of his important works) just three year after Schumpeter had enrolled in the faculty of Law at the University of Vienna, are clear evidence that Tarde influenced the great Austrian theoretician. After all, Schumpeter's reading of Tarde coincided –chronologically– with a period when Schumpeter was formulating his own theoretical system (Haberler, 1950; Smithies, 1951; Faltello & Jovanovic, 1997).

Here, one must face two important issues:

(a) Why were Tarde's ideas not influential in *Economics?* According to Veblen's (1902) intriguing explanation: The author's familiarity with economics is patently scanty and has a perfunctory air. The work is unnecessarily bulky, diffuse, and discursive, while the penchant for system making and symmetry gives it an air of completeness and definitiveness which is not borne out by substantial results. The concept of individual psychology is in much the same case as his economics: it is somewhat behind the times; its outlook over its field is narrow and is subject to essentially mechanical limitations; With respect to economic psychology, reading Tarde leads to the doubtful conclusion that individual human motivation is an adequate explanatory tool for the study of *Economics.*

(b) Why is the Tardean contribution to the formation of Schumpeter's ideas neglected? In our view, it is because the German (non-Marxist) tradition in economics was practically represented by Schumpeter, i.e. Vienna's *enfant terrible,* a fact that made him appear exceptionally unique. Schumpeter played a role in this process, by not emphasizing the significant contribution of other theoreticians or schools of thoughts*, e.g. German Economics* (Reinert, 2002). In other words, Schumpeter's originality in the Anglo-American world was, at least partly, the product of ignorance of the approaches on which he built his essays.

According to Toye (2006: 830): "*There are different kinds of debt that a young economist*

incurs in the course of his education and apprenticeship. Some are personal, accumulated through receiving mentoring, friendship, and academic patronage, and some are intellectual, accumulated through inspiration, intellectual guidance and assimilation of the other's ideas". In this context, there is no doubt that Schumpeter owed intellectual debt to Gabriel Tarde.

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