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Thorstein Veblen, Darwinism, and Gene-Culture Coevolution Theory

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Abstract

At the turn of the previous century, Thorstein Veblen applied general evolutionary principles to explain the macro-historical evolution of human societies, as well as the institutional structure of the capitalist pecuniary culture. Even if Veblen had a strong intuitive grasp of the evolutionary forces leading to institutional change, he was not always careful and explicit in developing his ideas towards a full-fledged, consistent evolutionary theory. This problem manifests itself especially severely when Veblen analyzes the transition of human societies from one cultural stage to another in their macro-historical evolution. The paper argues that a recent approach in the Darwinian social sciences, gene-culture coevolution theory, has the conceptual apparatus to remedy this problem and thus make Veblen's ideas an important part of contemporary evolutionary thinking in social theory.

Key Words: Thorstein Veblen, Darwinism, Gene-culture Coevolution, Dual Inheritance, Cultural Evolution

JEL Classification: B15, B31, B52, Z13

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1. Introduction

In his widely acclaimed and cited "Why is Economics not an Evolutionary Science?" (1898) Thorstein Veblen points to two main reasons why he thinks classical and neo-classical economics—including the Austrian variant—cannot be classified as evolutionary social science. The first reason concerns causality, that is, the problem of causation in social explanation. Economic science, Veblen argues, when it analyzes a sequence of events, a "developmental process", conceives of this process "in terms of a consistent propensity tending to some legitimate end" (Veblen 1898: 378). (One cannot help remembering the famous "invisible hand" theorem at this point). This is tantamount, according to Veblen, to imposing a "coercive surveillance over the sequence of events" and perfectly in line with "natural law", which, Veblen argues, is the main principle of causality in pre-evolutionary economic science (Veblen 1898: 378). Evolutionary sciences, on the other hand, explain developmental processes in reference to "cause-and-effect" relations, and in particular in reference to "cumulative causation" (Veblen 1898: 378). Veblen emphasizes that it is due to this "cumulative" nature of causation that "colorless impersonal sequence of cause and effect can be made use for *theory proper*" (Veblen 1898: 378, emphasis added), such as when the evolution of the eye, from first light-sensitive cells to its current form, is explained in evolutionary biology through the cumulative effect of the process of natural selection.

The second reason Veblen puts forward to explain the pre-evolutionary status of economics relates to how human nature is conceptualized in economic theory. On this account Veblen maintains that the hedonistic conception of the human being, which economics has borrowed from utilitarianism, does not allow for an evolutionary social analysis. This is so mainly because the idea of the human being "as a bundle of desires" awaiting satisfaction implies a given and immutable human nature (Veblen 1898: 390). This makes for an economic theory, according to Veblen, which fails to conceive of the human being "as a coherent structure of propensities and habits which seeks realization and expression in an unfolding activity" (Veblen 1898: 390). It is only through this latter conception then, based on hereditary propensities ("instincts", see Veblen [1914] 1918) and habits of thought, that the "human material" ("human knowledge, skill and predilection") could properly be made a part of an evolutionary social analysis (Veblen 1898: 387).

Given this diagnosis of the state of economic science in the late 19th century, many commentators on Veblen agree that his life-long project was to develop a socio-economic analysis based on evolutionary principles, which were gaining hold in Western academic circles throughout the second half of the 19th century (see, for example, Edgell 1975; Hédoin 2010; Hodgson 1992; Hodgson 2004a; Hodgson 2008; Rutherford 1998). But disagreements emerge as soon as one considers the question, "What were really the defining elements of Veblen's evolutionary analysis"? The Ayres tradition, for example, seems to put the emphasis on Veblen's "ceremonial vs. instrumental" dichotomy and thus essentially explains how institutions, as ceremonial elements in society, may hinder technological progress (see Ayres [1944] 1962). Rutherford (1984), on the other hand, disagrees with this characterization of Veblen's work and warns us not to miss the double-sided nature of causality in Veblen. Accordingly, Rutherford argues that in Veblen's evolutionary social theory, institutions, as established habits of thought, affect the run of technological progress, which in turn shapes the institutional structure of society (Rutherford 1984). Yet, he criticizes Veblen for "substitut[ing] the psychologism of his instinct theory for the psychologism of orthodox theory, instead of rejecting psychologism entirely." (Rutherford 1984: 333). For Rutherford, the gist of Veblen's system lies in its being a theory of the evolution of social *institutions*, and anything Veblen said in this regard could be formulated without recourse to an instinct theory (Rutherford 1984). Rutherford also adds that Veblen's attempt to build up a theoretical structure along Darwinian evolutionary lines was a failure, "a promise unfilled" (Rutherford 1998: 463), mainly because "Veblen never managed to translate his methodological outline into a usable or appealing theory of institutional change" (Rutherford 1998: 464).

Hodgson (1992) takes a more sympathetic attitude toward the Veblenian project of setting the counters of a socio-economic theory based on Darwinian evolutionary principles. He argues that "despite some problems and inadequacies, on the whole Veblen was relatively successful in establishing the basis of a Darwinian economics" (Hodgson 1992: 296). But, irrespective of whether Veblen was successful or not in his project, both Hodgson and Rutherford contend that students of Veblen's work in the 20th century did not really follow his methodological guidelines as set in his 1898 article. Rutherford (1998: 476) observes, for example, that "the American institutionalism that actually formed in the

interwar period was something much less than Veblen had envisaged in 1898". According to Rutherford, this was because institutionalist economics of this period essentially involved "the study of particular problems within a given institutional context" rather than the dynamic analysis of society and its economy using evolutionary methods and principles (Rutherford 1998: 476). Hodgson (1992: 285) similarly maintains that in the literature on institutional economics "there has been remarkably little detailed exploration, informed by biology, of what Veblen precisely meant by an 'evolutionary' science, and of the character of the 'post-Darwinian' economics that he attempted to build". So, according to both Hodgson and Rutherford, much of post-Veblenian institutional economics has not progressed along evolutionary lines as defined by Veblen in the 1898 article.

A complete analysis of why this has been the case necessitates a thorough historical study of the evolution of institutional economics in the 20th century, such as can be found in Hodgson (2004b) and Rutherford (2011)—and this falls beyond the scope of the present study. But one factor seems to be too important to ignore even within the confines of this paper. This concerns the fate and status of Darwinism (and biology-based theories) in the social sciences in the 20th century. Even though Veblen never took recourse to any kind of "biological reductionism" (Hodgson 1998), his conception of human nature was greatly influenced by the instinct psychology of William James and William McDougall (Twomy 1998). Following the publication of Charles Darwin's *The Origin of Species*, there was indeed a marked increase in biology-based theories in the human and social sciences throughout the latter half of the 19th century. So, biological theories, concepts and metaphors were used in this time period not only to study human behavior but also societal dynamics at large. Herbert Spencer, for instance, inspired by both Darwinian and Lamarckian theories of evolution, coined the term "the survival of the fittest" to apply evolutionary theory to the study of human societies (Mesoudi 2011). But, as Benkler (2011) reminds us, the use of "Social Darwinism" as the scientific apologia for racism and for the existence of social inequalities created a general reaction in the social sciences against biological accounts of human behavior. This reaction gave rise to the famous "nature vs. nurture" debate, in which a growing number of social scientists stood against biology-based theories of human behavior and argued in favor of "cultural" accounts of the differences across human societies (31). And, "[r]epulsed by the Nazi uses of eugenics and scientific racism, the

scientific and academic community had by the 1950s finally settled the battle more or less completely on the culture side." (Benkler 2011: 32)

As will be apparent in later parts of the paper, Veblen's evolutionary socio-economic theory, with its peculiar synthesis of biological and cultural accounts, stood in fact outside and independent of this battle. But still, this state of affairs in the social sciences community in the first half of the 20th century, when Veblen was active as a writer and theorist, did not create a very welcoming atmosphere for Darwinian-inspired social theories. On top of this, and especially with the rise and proliferation of a positivist school of thought in psychology called "behaviorism", instinct psychology started to be criticized by many for being too metaphysical to be a scientific account of human agency (Asso and Fiorito 2004). Initiated in 1913 with a series of lectures given by John B. Watson at Columbia University, the behaviorist approach put the "emphasis on demarcating science (observed behavior) from metaphysics (mental states) and on the empirical testing of behavioral laws" (Asso and Fiorito 2004: 446). The critique of instinct psychology, backed up by these behaviorist research principles, found adherents not only among non-institutionalist economists such as Frank H. Knight but also among the leading names of the institutional school, such as Clarence Ayres and Morris A. Copeland (Asso and Fiorito 2004: 457). All in all, in the mid-20th century even economists close to Veblen's socio-economic theory seemed to have distanced themselves from the use of any Darwinian-inspired or biology-based accounts of the human being and human society.

It is fair to say that this distant relationship between (Darwinian) biology and human behavioral sciences lasted until the 1970s, when Edward O. Wilson published his influential book *Sociobiology: A New Synthesis* (1975). In this book, Wilson essentially argued that social behavior in nonhuman animals (for example, social insects) as well as in humans can be at least partly explained with natural selection acting on genes. Even though Wilson's ideas, especially those concerning human behavior (such as altruism, aggression, nurturance, etc.), were heavily criticized by many scholars for being too reductionist (see Benkler 2011), they played an important role in closing the gap that persisted for years between evolutionary biology and human behavioral sciences. The popularity of the book *The Selfish Gene* by Richard Dawkins (1976) and the rise of "evolutionary psychology" in the 1980s, which sees

the psychological mechanisms of the human mind as evolved adaptations to the ancestral environment (Barkow et al. 1992), show that theories of human behavior based on Darwinian evolutionary theory had already started to gain an increasing acceptance toward the end of the 20th century.

"Gene-culture coevolution theory", or as it is also called "dual inheritance theory", emerged around the same time period within such an intellectual climate conducive to evolutionary approaches in the human sciences (see Cavalli-Sforza and Feldman 1981; Durham 1991; Richerson and Boyd 2005).[1] However, this theory differed from sociobiology and evolutionary psychology in one important aspect: it emphasized that the study of human behavior should include "culture" as one of the explanatory variables in the analysis. That simply means that human behavior should be explained not only with recourse to the information encoded in the genetic material (the innate tendencies and dispositions of human nature) but also to that which is socially learnt and transmitted. This is the reason why gene-culture coevolution theory points to two different but related evolutionary processes (genetic evolution and cultural evolution) as forming a unified framework for the study of human behavior and society. Within this framework, dual inheritance theory puts forward two main arguments. First, it proposes that culture, defined as information capable of affecting human behavior that we acquire through social learning, evolves in a Darwinian process of evolution (Richerson and Boyd 2005). Here the crucial question is, "Why is it that some cultural variants and patterns of behavior are transmitted from generation to generation while others become obsolete in time"? And, as its second main argument, the theory stresses that genetic and cultural evolution are mutually interdependent. Genetic evolution affects human culture in that the capacity of the human brain to acquire cultural information through social learning is the result of natural selection acting on genes. But, cultural evolution too has its effects on genetic evolution because the cultural and socio-economic environment could shape, just like the physical one, the course of natural selection operating on the genetic material. (For example, genes responsible for the digestion of the milk sugar evolved first in dairy farming cultures). Based on these two main

[1] Throughout the text, when referring to gene-culture coevolution theory, I will essentially follow one of the most recent and consistent expositions of the theory by Richerson and Boyd (2005).

arguments, gene-culture coevolution theory maintains that an evolutionary analysis of human behavior and society should take into account both the genetic and the cultural evolutionary processes in their mutual relation to one another.

This study has two main objectives. The first one is to scrutinize the theoretical and methodological relation between Darwinism and Veblen's socio-economic theory. This relation will then serve as the main conceptual framework to discuss—as the second objective—how insights from gene-culture coevolution theory could be integrated into the main framework of Veblen's social analysis. This endeavor should be important and interesting because just like Veblen's general framework, dual-inheritance theory uses biological and cultural aspects of the human being without resorting to biological reductionism. And again, similar to Veblen, theorists in this tradition specifically argue in favor of a Darwinian evolutionary analysis of cultural traits and patterns of behavior. So, given these similarities, how can we establish a theoretical link between these two different, and yet related research traditions? Rutherford (1998) argues, for example, that even though Veblen placed a great emphasis on the process of the "adaptation" of habits to changing conditions, he never really proposed a full-fledged theory of how exactly this happens. Similarly, Hodgson (2004: 356) maintains that "[w]hile Veblen generally saw institutions as units of selection in a process of economic evolution, he did not make the context, criteria or mechanisms of selection entirely clear". If so, can gene-culture coevolution theory, with its emphasis on the evolution of cultural traits and patterns of behavior across generations, help us in giving more structure, depth and coherence to Veblen's evolutionary analysis? And, given the argument above that most of the post-Veblenian institutionalist economists did not really follow the evolutionary guidelines in the 1898 article, can the Darwinian approach of gene-culture coevolution theory move today's institutional economics closer to being an evolutionary science? In the light of these questions, the rest of the paper will develop the link which I argue exists between Veblen's socio-economic theory and gene-culture coevolution, and which, I further maintain, deserves more attention than it has received so far.

The paper is structured as follows: The next section outlines the main elements of Darwinism with an eye toward their use and application in social analysis. Then, the paper

discusses whether or not, and if yes, how Veblen made use of Darwinian principles in his evolutionary theory. Based on this discussion, the subsequent section analyzes how the Darwinian approach of gene-culture coevolution theory can contribute to the further development and refinement of the Veblenian theoretical framework today. The final section concludes with some further remarks.

2. Main Elements of Darwinian Theorizing

2.1 Evolution through Natural Selection

In this section, I would like to start inquiring about Darwinism by specifying what it is that the Darwinian theory of evolution aims to explain in biology. There are two specific features of the living world for which Darwinism purports to provide its own explanation. The first one is the enormous diversity that we observe in the kingdom of biological organisms. This diversity is based on the existence of a myriad of different species which Darwinism explains by "descent with modification" from a common ancestor (Mayr [2001] 2002). The second concerns the complex adaptations that all the species seem to posses, such as bird wings, the human eye, the human brain, etc. It is the distinguishing mark of Darwinism to explain both this diversity and adaptive complexity in reference to three main principles constituting together the theory of natural selection: First, the theory of natural selection starts with the observation that "variation exists" among the members of a population (Mesoudi 2011, viii). The existence of variation is an indispensible condition for the operation of natural selection because if there is no variation there will be no differential fitness, and hence no selection. Second, a competition, a struggle for existence, takes place among the members of the population due to limited availability of resources which are necessary for survival. And finally, at least some of the differences among the members of the population are heritable. Given this set-up, the theory of natural selection postulates that those characteristics which help an individual to survive and reproduce will increase in frequency as they are passed on by surviving members of the population to their offspring. Over time these "beneficial characteristics gradually accumulate and combine" to give rise to such complex adaptations as "the eyes, wings, and so on" (Mesoudi 2011: viii), and even to new species when different

populations are sufficiently isolated from each other—a process called speciation, which is the basis of biological diversity that we observe in nature (see Mayr [2001] 2002).

As the population evolves by means of natural selection, that is, as those variants which are "fit" to survive are *selected for*, and those which are not are *selected against*, the end result will be—as it is said in evolutionary biology—the "adaptation" of (fit) variants to the environment. It is important to note here that adaptation is not a teleological process in the Darwinian framework. That is to say, adaptation is not directed and aimed towards a pre-given end. It is rather the "a posteriori result of an elimination" (Mayr [2001] 2002: 165). Secondly, and in relation to this, "Darwinian adaptation" proposes a quite different explanation for adaptive fit than "functional" explanations. In other words, an adaptive trait will not arise, according to Darwinism, just because it is needed. This means, for example, that you cannot explain the emergence of wings with the fact that birds fly—because even though "[w]ings make flight possible", … flight does not cause wings" (Stoelhorst 2008: 418). So, it is worth emphasizing once again that adaptation in the Darwinian sense is the cumulative and a posteriori result of a process of selection. Moreover, the idea that adaptation is the result of an elimination process is also important for our discussion later in the paper on "Veblenian adaptation". We will see how Veblen explains in *The Theory of Leisure Class* (Veblen [1899] 2007) that our consumption patterns, tastes, sense of beauty, religious rituals and laws are all adaptations to the particular conditions of the pecuniary culture under the "selective guidance" of conspicuous wastefulness. Veblen refers here to an elimination process, just like Darwin, according to which those consumption patterns which are not fit to survive under the pecuniary culture—because they do not involve conspicuous waste and hence are not honorific—will be selected against. In a similar way, when talking about the sense of beauty, for example, Veblen builds again upon Darwinian adaptation and observes that "the elimination from our surroundings of the pecuniary unfit … results in a more or less thorough elimination of that considerable range of elements of beauty which do not happen to conform to the pecuniary requirement" (Veblen [1899] 2007: 100).

2.2 Forces of Evolution

Natural selection is by far the most familiar (and also perhaps the most important) "force of evolution", by which is meant a mechanism, *modus operandi*, which changes gene frequencies in a given population. In this sense, any mechanism which affects the frequency of genotypic traits is described as a force of evolution in the Darwinian framework.[2] In general, apart from the process of natural selection, three other forces of evolution are defined: mutation, genetic drift and gene flow. All these four forces of evolution have it in common (by definition) that they affect gene frequencies over the course of generations: Mutations are random changes in genotype. They affect gene frequencies in the population by directly changing the gene for a particular trait as a chance outcome. It is important to note that mutation, unlike natural selection, is at the same time a "source of variation". To see what this means, we can simply observe that natural selection cannot generate new variation (a new gene for a particular trait) by itself. It operates on already existing variation within the population. This contrasts with mutation which, as the result of chance outcomes, can create new genotypes, and hence new genetic variants. Of the two other forces of evolution, genetic drift occurs when gene frequencies change through random events experienced by the population; and gene flow is the movement of genes from one population to another caused by migration and interbreeding.

The reason why "forces of evolution" are important for the main theme of this paper is that in the next section we shall talk about several forces of "cultural" evolution, which change the frequency of "cultural variants" in the population. So, when analyzing the process of cultural evolution from a Darwinian perspective, gene-culture coevolution theory asks questions such as, "What are the forces at work which make a cultural variant (a particular pattern of thought and behavior in the Veblenian sense) to proliferate in society"? For instance, what are the forces of cultural evolution which affect the number of people in society who consume for invidious purposes—what Veblen calls "conspicuous consumption"? The way this question is posed is in line with the Darwinian methodology

[2] In this paper, I will not dwell upon the debate whether natural selection operates upon genotypes or phenotypes. But one needs to mention that gene-culture coevolution theorists seem to accept the "gene-centered" view of evolution (see Richerson and Boyd 2005).

because it specifically asks for the mechanisms which change the frequency of a cultural trait in the population. Indeed, in its Darwinian analysis of cultural evolution, gene-culture co-evolution theory clearly draws upon the analysis of the forces of evolution in evolutionary biology. Perhaps one of the most important and interesting questions here is, "Can we find in the realm of cultural evolution natural-selection-like processes operating on cultural variants"? Or, are there other kinds of mechanism peculiar to cultural evolution? Needles to say, there is no *a priori* reason to expect that just because a mechanism of evolution is important in biology, it will also be important in the evolution of cultural variants. In fact, one of the objectives of gene-culture coevolution theory is to lay bare in what way the forces of cultural evolution are similar to, and in what way they are different from those of biological evolution.

2.3 Population Thinking

To end the discussion on Darwinian evolutionary theory, I would finally like to refer to "population thinking", which has been considered as one of Darwin's greatest contribution to evolutionary theory (see Mayr [2001] 2002). Indeed, population thinking clearly demarcates Darwinism from other evolutionary approaches which were quite popular at Darwin's time. The French naturalist Jean-Baptiste Lamarck, for example, had proposed an evolutionary theory before Darwin which was based on the inheritance of the acquired characteristics through use/disuse, and which saw the living world as progressing in a linear fashion from simple organisms to ever more complex ones. According to this theory, evolution involves a unidirectional change from lower to higher organisms—for example, from single-celled microorganisms to complex humans (see Mesoudi 2011). In other words, Lamarckian evolution is a ladder-like process of change in which organisms are driven towards ever more complexity and perfection.

It was Herbert Spencer's application of evolutionary analysis to social change that had the greatest influence on evolutionary social science in the 19th century. But, even though Spencer coined the term "the survival of the fittest", which people generally associate with Darwinian natural selection, his ideas on evolution were more Lamarckian

than Darwinian. Just as Lamarck described the living world as moving from the simple to the complex, Herbert Spencer saw human societies progressing towards more and more complexity. This notion of "evolution as progress" had its effects also on the theories of such important early anthropologists as Edward Tyler and Lewis Morgan (Mesoudi 2011). Based on Spencer's ideas, 19th-century anthropology defined cultural evolution as involving a progressive change from savagery to the stage of barbarism, and then finally to civilization, where each stage represents a move to a more advanced cultural situation. We will see below how Veblen, even though he did not seem to refer to any notion of "progress", made use of this very framework in his various studies, including his famous *The Theory of Leisure Class* ([1899] 2007) and *The Instinct of Workmanship* ([1914] 1918).

As we shall discuss later in some more detail, Veblen's view of socio-cultural evolution as a linear process consisting of different stages makes his relation to Darwinism a bit complicated. This is because Darwinian evolution based on population thinking is quite different from Spencerian or any other evolutionary theory that sees evolution as a linear process of transformation. For example, in Spencer's theory, evolution involves the transformation of a "group of homogenous individuals that all share the same essential qualities" into a new group with new essential qualities (Mesoudi 2011: 39)—such as the transformation of savage societies into barbarian ones. In this approach, differences within a group are ignored by definition because each group, or class, is defined by a particular essence which makes within-group differences out of the question. Darwinian evolutionary theory, on the other hand, puts the emphasis on variation within a given population and seeks to analyze how "this variation gradually changes over time" (Mesoudi 2011: 39). The difference between these two approaches to evolution is remarkable. In the former, we have a class of homogenous individuals which is transformed into a new class with a different defining element. In the latter, we have a population of variable individuals, where evolution consists of the change in the relative frequencies of different variations. Over generations, through the elimination of unfit variants, the population may evolve into a new species. But this process of speciation does not involve a sudden wholesale transformation of all the members of the population. It occurs through the cumulative effect of natural selection acting on existing variation. So, in Darwinian evolutionary theory, even

macroevolution is explained through micro processes which operate upon the individual members and which gradually change the frequencies of different variants in the population.

3. Veblen's Use of Darwinian Principles

The question whether and how Veblen made use of Darwinian theory and methodology belongs, in fact, to a broader issue that concerns the applicability of Darwin's ideas in the socio-economic realm. The thesis known as Universal Darwinism or Generalized Darwinism (see Aldrich et al. 2008; Hodgson 2002; Hodgson and Knudsen 2006a; Hodgson and Knudsen 2008) states that Darwinian principles of variation, inheritance and selection are "domain-independent" (Levit et al. 2011: 546) and hence can be applied (as abstract general principles) outside biology to explain social evolution. It should be noted, however, that the proponents of this view, when they say that "social evolution *is* Darwinian" (Hodgson and Knudsen 2006a: 14, emphasis original), go beyond the use of Darwinism only as a "metaphorical or analogical" tool in social analysis (Stoelhorst 2008: 421, note 1). Universal/Generalized Darwinism involves the essential idea that the ontology of the social world is such that it allows for the application of Darwinism as a theoretical tool to understand and explain the causal mechanisms behind evolutionary social change.

Gene-culture coevolution theory, by arguing that cultural evolution is Darwinian, clearly subscribes to Universal Darwinism. To assess, however, the link between Veblenian social theory and the main thesis of Universal Darwinism, we must first scrutinize if Veblen in fact made use of Darwinian principles in his social analysis. In this section, I will essentially argue that even though it cannot be said that Veblenian theory is Darwinian in all its aspects, it can be shown that Darwinism served as the main organizing framework for much of Veblen's most important analyses.

Even though Veblen used the word "natural selection" only sparsely, Hodgson (2004) has counted more than a hundred occurrences of the words "select", "selection" and "selective" in Veblen's works. As I also briefly mentioned above, there are indeed clear and direct references in Veblen to a process of selection in habits of thought and also in racial (genetic) elements of individuals, especially in his *The Theory of Leisure Class*. At the same

time, however, Veblen seems to move along Lamarckian and Spencerian lines when he talks about the macro-evolutionary history of the human kind starting from savagery up until industrial business capitalism. So, is there a tension then, or perhaps an inconsistency, in Veblenian evolutionary social theory? To answer this question one should consider two points. First, Darwinian and Lamarckian theories propose two different explanations for the evolutionary process. The former starts with the existence of variation and then explains evolution with the elimination of unfit variants, where adaptiveness to the environment is then an *ex-post* result. In Lamarck's theory, on the other hand, evolution *is* the process of adaptation of the organism to its environment, where adaptive characteristics are then inherited by future generations. (Giraffes have evolved long necks as they reached higher leaves; i.e., as they adapted to a particular environment through the inheritance of acquired characteristics). But secondly, one should also observe that Darwinian and Lamarckian theories of evolution are not necessarily incompatible. In fact, Darwin himself viewed Lamarckian adaptation, perhaps not as a theory of evolution, but as a source of variation on which natural selection could operate.

Veblen saw evolutionary institutional change as a process in which habits of thought and behavior become adapted to the existing or changing socio-technological conditions. (I shall expand on this shortly). If so, "Is this Veblenian adaptation in the socio-economic realm Darwinian or Lamarckian"? As far as this question is concerned, the important point to observe is that Veblen did not really accord much significance to the discussion of relative merits and demerits of Lamarckian and Darwinian theories of evolution. To him, "the nature of the adaptive process … [was] of less importance than the fact that, by one method or another, institutions change and develop" (Veblen [1899] 2007: 126). Nevertheless, as we discussed in the introductory part above, many commentators of Veblen agree that he failed to offer a well-elaborated and consistent theory of evolutionary institutional change. Liagouras (2009: 1061) argues, for instance, that the reason behind Veblen's failure was "the incompatibility between the Darwinian conception of evolution and Veblen's main subject". To Liagouras, Veblen was interested in the evolution of socio-economic systems, and for such an analysis Darwinian evolutionary theory was not appropriate. Against this interpretation, I will argue below that Veblen could have avoided many of the problems which today's commentators point to by staying true to the Darwinian framework. In other

words, the problem was not that Veblen applied Darwinism to the socio-economic evolution of the human kind, but that he did not always use natural selection and population thinking in an explicit and consistent way.

In line with the early theorists in anthropology, Veblen divided the socio-economic evolution of humankind into four main stages: The first one is savagery, where the self-regarding and invidious impulses of human nature are not strong, and where humans live under a "peaceful" cultural condition based on the instinct of workmanship and a concern for the common good of society. Then comes the barbarian stage (the predatory phase of the pecuniary culture) as technological advances create an economic surplus worth fighting for and, thus, as the predatory dispositions of the human being find a congenial social situation to become dominant and to proliferate. This gives rise to such habits as acquisition by force and ultimately leads to the emergence of the institution of private property. The next stage in the macro-evolution of humanity is the handicraft era (the peaceable/commercial phase of the pecuniary culture). According to Veblen, the defining figure of this phase is the craftsman, who has his workmanship skills together with an interest in the business traffic. So, the handicraft era is similar to the savage culture in the sense that in both of these historical stages the instinct of workmanship plays a prominent role in shaping the main institutions of society. However, especially in later periods of the handicraft era, as a result of the growth of petty trade and business principles, predatory/acquisitive dispositions also figure as the constituent elements of human habits and behavior. But these self-regarding dispositions shape the handicraft culture in a rather peaceful way, because the main method of acquisition in this era is not forceful seizure as in the barbarian stage, but a growing business practice based on the products of the handicraft industry. And finally, the Industrial Revolution marks the beginning of the machine age, which is based on large-scale industry and "the supreme dominance of pecuniary principles" (Veblen [1914] 1918: 216). The machine age is characterized, for Veblen, by a growing division of labor between industrial and pecuniary occupations. This division, Veblen argues, creates two different mindsets and patterns of behavior in society, supporting two different kinds of institution in industrial capitalism: the pecuniary (business) institutions of

acquisition and the industrial institutions of production (Veblen [1899] 2007: 137).[3] The main problem Veblen sees in modern capitalist society then is the fact that under capitalism industry is controlled by business principles, which Veblen considers as the biggest impediment to the proliferation of workmanship habits of thought and hence to the development of technology.

This macro-evolutionary history of human societies serves as the main background in most of Veblen's important works against which he analyzes the evolution of institutions as a process of adaptation of habits to the material and socio-economic environment. In this analysis, Veblen uses such terms as "selective adaptation" or "habituation", and when using the latter term he is not really clear whether he refers to a Darwinian (selective) or a Lamarckian process of adaptation. In his *The Theory of Leisure Class*, for example, Veblen's main objective is to devise an evolutionary theory of the rise of the institutions of the capitalist pecuniary culture, with the central emphasis given to the institution of leisure class. In *The Instinct of Workmanship*, on the other hand, Veblen has a broader objective of analyzing the macro-evolutionary history of humankind in terms of the role and effectiveness of the instinct of workmanship in different historical stages of this macroevolution. So, even though they have different points of emphasis, in both of these two major works Veblen shows a clear willingness and commitment to develop an evolutionary theory of human institutions. Having said that, in his *The Theory of Leisure Class* Veblen is much more clear and explicit in outlining the (selective) "mechanisms" of institutional change as compared to his analysis in *The Instinct of Workmanship*, where he rather easily and in an *ad hoc* manner refers to processes of habituation without really explaining why and how these processes take place.

To see this difference we can simply take a closer look at Veblen's analyses in these two works. In *The Theory of Leisure Class*, Veblen essentially explains how the institutions of the pecuniary culture, in different spheres of human life, are formed under the "selective

[3] This division holds true, according to Veblen, even though "[t]he latter class are not often recognized as institutions, in great part because they do not immediately concern the ruling class" (Veblen [1899] 2007: 138). In evaluating this claim of Veblen, we should also keep in mind that for him institutions are nothing but *established habits of thought and behavior* in society.

guidance" of pecuniary reputability, which in turn rests upon the norms of conspicuous wastefulness. For example, consumption habits are formed, according to Veblen, through the selective elimination of those patterns of consumption which do not conform to the norms of honorific wastefulness. In other words, in order to survive under the capitalist pecuniary culture habits of consumption must pass the test of being honorific. So, the institution of "conspicuous consumption" arises in modern society as a result of a process selective elimination of unfit variants; it arises, in other words, through Veblenian adaptation in the socio-economic sphere.

According to Veblen, these patterns of conspicuous consumption, by signaling the existence of economic power to others, satisfy the motive of emulation, "the stimulus of an invidious comparison which prompts us to outdo those with whom we are in the habit of classing ourselves" (Veblen [1899] 2007: 71). And in order to serve this function these patterns need to show, not only that the consumer possesses a certain amount of economic wealth, but also that she does not have to work in order to consume. For example, the tastes for the articles of dress are formed—under the selective surveillance of the norms of pecuniary reputability—to reflect "conspicuous leisure". The corset, high heels, etc. as parts of women's apparel are adapted to survive under the pecuniary culture because, by making the wearer unfit for any sort of industrial work, they symbolize conspicuous leisure. Veblen uses the same sort of Darwinian selective thinking to show the adaptive fitness of a variety of social activities of the leisure class:

> So, for instance, in our time there is the knowledge of the dead languages and the occult sciences; of correct spelling; of syntax and prosody; of the various forms of domestic music and other household art; of the latest proprieties of dress, furniture, and equipage; of games, sports, and fancy-bred animals, such as dogs and race-horses. In all these branches of knowledge the initial motive from which their acquisition proceeded at the outset, and through which they first came into vogue, may have been something quite different from the wish to show that one's time had not been spent in industrial employment; but unless these accomplishments had approved themselves as serviceable evidence of an unproductive expenditure of

> time, they would not have survived and held their place as conventional accomplishments of the leisure class. (Veblen [1899] 2007: 34)

Since, moreover, the leisure class stands at the top of the social pyramid, their tastes and habits of life constitute, for Veblen, the norms of reputability for the lower classes. In other words, the "leisure class way of living" sets the standards of reputability the observance of which "becomes incumbent upon all classes lower in the scale" (Veblen [1899] 2007: 59)

In a way true to Darwinian theory and population thinking, Veblen clearly distinguishes between the "process of selection" and the "sources of variation" in the social sphere. The selective process, in which habits of thought and behavior become adapted to the pecuniary culture, cannot create these different behavioral patterns in and of itself. In other words, the selective process is not a creative principle. This is the reason why Veblen believes that the source of variation in preferences and consumption patterns should be sought elsewhere than in the economic sphere. But once variation exists, the process of selection sees to it that only those patterns of behavior survive which are in line—adaptively speaking—with the institutional structure of the pecuniary culture. Thus, Veblen argues:

> Neither in matters of art and taste proper, nor as regards the current sense of the serviceability of goods, does this canon act as a principle of innovation or initiative. It does not go into the future as a creative principle which makes innovations and adds new items of consumption and new elements of cost. The principle in question is, in a certain sense, a negative rather than a positive law. It is a regulative rather than a creative principle. (Veblen [1899] 2007: 110)

So, in so far as Veblen is concerned with explaining how different institutional structures of pecuniary capitalism fit in together, the question that we posed at the beginning of this section should be answered in the affirmative: Veblen clearly uses Darwinian theoretical tools in his analysis. And, this is true not only because Veblen simply

employs the term “selection”, but mainly because he strictly adheres to the concepts and principles of Darwinian theory. In other words, Veblen explicitly acknowledges the existence of “variation” in the social sphere in the form of different behavior patterns, consumption items and tastes etc. And then, he continues to argue that only those patterns and habits which are able to survive under the pecuniary culture contribute to the institutional structure of modern society. He thus explains institutional adaptation as an *a posteriori* result of a “selection” process in the Darwinian sense. This might properly be called “Veblenian adaptation”.[4]

But, when Veblen analyzes the macro-historical evolution of human societies, Veblenian adaptation seems to loose this Darwinian character. In his macro-historical analysis Veblen does not clearly spell out the evolutionary mechanism through which new habits of thought proliferate in society as it passes from one historical stage to another. Instead, he puts the emphasis on the “material and technological conditions” as a factor of macro-cultural change. He explains, for example, how the emergence of an economic surplus through the advances made in technology caused the transition from the peaceful savage culture to the predatory barbarian stage:

> The predatory phase of culture is therefore conceived to come on gradually, through a cumulative growth of predatory aptitudes, habits, and traditions, this growth being due to a change in the circumstances of the group’s life, of such a kind as to develop and conserve those traits of human nature and those traditions and norms of conduct that make for a predatory rather than a peaceable life. (Veblen [1899] 2007: 19)

[4] Hodgson and Knudsen (2006b), moreover, argue that Veblen’s notion of “habit” serves as the social unit which transmits patterns of behavior to future generations, and which consequently generates the institutional matrix of society as a totality of “established habits of thought”. Even if Veblen is not always explicit about how habits function as units of social transmission and how they undergo adaptive change—a problem we shall take up in the next section—Hodgson and Knudsen (2006b) maintain that he clearly accords them a role as entities responsible for social inheritance, a role as “social replicators”.

One should note that even though Veblen takes recourse here to the Darwinian notion of "cumulative growth", he does not really offer a detailed Darwinian explanation for the transition to the barbarian stage. All we learn from his discussion of the matter is that the new socio-technological conditions create a more suitable environment for the predatory propensities of human nature to proliferate. How exactly this happens, through what mechanisms, is not clearly articulated.[5]

Similarly, in the *Instinct of Workmanship*, where this macro-historical evolution appears as the main object of analysis, Veblen uses the term "habituation" without really offering any explanation about how this process of habituation unfolds over time. Regarding the handicraft era, for example, he observes that "in that era industry is conceived in terms of the skill, initiative and application of the trained individual", and so "human relations outside of the workshop tend also *by force of habit* to be conceived in similar terms of self-sufficient individuals" (Veblen [1914] 1918: 234, emphasis added). This argument is important because Veblen uses it to develop the important thesis that the Natural Rights philosophy emerged in the handicraft era as a result of this particular conception of human relations in society. (The economy based on self-sufficient individual craftsmen in the workshop led through habituation to a conception of society composed of independent individuals). And yet, Veblen offers no explanation for the mechanisms of this habituation.

To give a final example, in his discussion on the machine industry Veblen maintains that individuals who "have been trained in the machine technology and are exposed to the full impact of the machine's discipline" will undergo a change in their habitual attitudes towards Natural Rights—including property rights (Veblen [1914] 1918: 343). He expects, therefore, that as the machine age develops, engineers and skilled workmen will lose their "uncritical habitual faith" in the institution of property, which will possibly lead to the decay of the capitalist business culture in the future (Veblen [1914] 1918: 343). And once again,

[5] Below I shall argue that Veblen's use of the "instinct of emulation" as a psychological factor which works to increase the prevalence of predatory habits in society has, in fact, a Darwinian character. This is because Veblen's argument here can be interpreted as explaining how the frequency of predatory habits increases in society, thanks to the instinct of emulation, once this instinctive disposition finds an opportunity in the new socio-technological conditions to become powerful and effective as a motivational factor. But, as we shall see, the main problem in Veblen's analysis at this point seems to be the lack of the concept of "forces of evolution", which would have allowed him to express his intuition in an explicitly Darwinian framework.

why exactly engineers should change their habits of thought and behavior is not explained by Veblen, except by referring in a rather *ad hoc* way to a process of habituation.

Now, based on the discussion so far the following observations can be made about Veblen's relation to Darwinian theory: Veblen specifically uses a Darwinian way of thinking when he explains the institutional matrix of the capitalist pecuniary culture as resulting from a process of (Veblenian) adaptation. So, for example, Veblen argues that conspicuous consumption habits tend to dominate modern society because they are (culturally) fit to survive under the conditions of the modern pecuniary culture. And, since people from lower classes try to imitate the leisure class way of living (thanks to the instinct of emulation), it follows that pecuniary reputability becomes the main criterion at the societal level for habits of thought to survive and proliferate. (We will see below how gene-culture coevolution theory can make this formulation more in line with modern Darwinian thinking in social analysis). But, in Veblen's discussion of the transition from one cultural stage to another in the macroevolution of human societies, references to Darwinian theory remain rather vague and not always theoretically sound. In the next section, I shall argue, therefore, that gene-culture coevolution theory has much to offer to the Veblenian framework in terms of making its theoretical analysis more precise and in accord with contemporary Darwinian theorizing in the social sciences.

4. Gene-Culture Coevolution Theory and Veblen's Evolutionary Analysis

From a Veblenian point of view, one of the key aspects of gene-culture coevolution theory is that it explains behavioral patterns, i.e., habits of thought and behavior, in reference to the process of social learning in which "cultural variants" are transmitted throughout society. Culture is defined here as "information capable of affecting individuals' behavior that they acquire from other members of their species through teaching, imitation, and other forms of social transmission" (Richerson and Boyd 2005: 5). So, Veblen's "habits of thought" are analogous to, or take the form of, "cultural variants" in this theory which are socially transmitted and which direct individuals' actions into certain behavior patterns. The specific contribution that gene-culture coevolution theory makes to the study of human culture is

that it analyzes the transmission of culture specifically within a Darwinian theoretical framework. Implicit in this is the idea that the causal mechanisms involved in the evolution of human culture can be explained with the main principles of Darwinism—the idea, in short, that cultural evolution is Darwinian. Therefore, the main objective of gene-culture coevolution theory is to explicate why and through what mechanisms certain cultural variants (beliefs, values, attitudes and habits) increase in frequency throughout society while others perish in time. As Richerson and Boyd argue:

> In the same way that evolutionary theory explains why some genes persist and spread, a sensible theory of cultural evolution will have to explain why some beliefs and attitudes spread and persist while others disappear. (Richerson and Boyd 2005: 6)

To this aim, gene-culture coevolution theory draws our attention to two different but related evolutionary processes. In other words, in developing a Darwinian theory of cultural evolution it also takes into account the process of biological evolution. This is important for gene-culture coevolution theory because many "psychological dispositions" which directly affect what cultural variants will be preferred and transmitted by individuals are the result of natural selection acting on genes. It is argued, in other words, that "the psychology of social learning" is shaped by biological evolution through natural selection (Richerson and Boyd 2005: 154- 155). For instance, gene-culture coevolution theorists believe that humans have an innate disposition to conform to the majority (*conformist bias*). And similar to evolutionary psychologists, they further maintain that this psychological disposition has been favored by biological natural selection, which means that at the time when human brains were evolved, conformity to the majority must have had a selective advantage. (Of our ancestors, those with a psychological disposition to imitate the majority rather than copy behaviors at random must have had a greater likelihood to survive and reproduce). Moreover, according to gene-culture coevolution theory biological evolution has favored a psychology which makes us imitate prestigious and success people around us (*prestige bias*).

That means that in human phylogeny copying the behaviors of successful people, as opposed to other forms of social or individual learning processes, has brought selective advantage to those with this disposition. It follows, therefore, that cultural variants which make an individual successful within a particular social setting will be imitated by others and hence will tend to spread in society (see Richerson and Boyd 2005).

Besides emphasizing the role and importance of our innate psychological dispositions in the course of cultural evolution, gene-culture coevolution theory also states that *culture itself evolves in a Darwinian process of natural selection*. That is to say, those cultural variants which increase the likelihood of a person to be imitated by others will be favored by natural selection acting on culture, meaning that they will be transmitted to future generations in a process of social learning. In short, if a particular belief or skill increases your chance of being a role model for others, that belief or skill will tend to spread throughout society. Thus:

> Much as a child resembles her parents, people resemble those from whom they have acquired ideas, values, and skills. Culturally acquired ideas, values, and skills affect what happens to people during their lives—whether they are successful, how many children they have, and how long they live. These events in turn affect whether their behavior will be culturally transmitted to the next generation (Richerson and Boyd 2005: 13)

For instance, according to Richerson and Boyd, the academic culture of valuing the number of publications more than the number of children one has can be explained by natural selection operating on cultural variants (Richerson and Boyd 2005: 77). Simply put, only those members of the academia who adopt this particular cultural variant become successful and remain as role models for young academics, while others most likely perish. So, Richerson and Boyd argue that this cultural variant is “fit” and “well adapted” to survive under the contemporary conditions in the academia, and is transmitted therefore to future generations.

What is actually at stake here is specifying different "forces of cultural evolution". As I have already mentioned above, similar to the forces of evolution in biology (natural selection, mutation, genetic drift and gene flow), cultural evolution theorists define certain forces of cultural evolution which change the frequency of cultural variants in society. These are generally analyzed in three different categories: "random forces" (cultural mutation and drift), "natural selection" and "decision-making forces" (see Richerson and Boyd 2005: 69). Under the latter category, one sub-class deserves a special emphasis as far as the main theme in this paper is concerned. This sub-class is called "biased transmission", which refers to the transmission of cultural variants where people choose one cultural variant over the others because of a *universal/psychological or cultural preference*.[6] Richerson and Boyd (2005) define three different kinds of transmission biases:

1. ***Content bias***: Some cultural variants are more likely to be adopted and transmitted because of their "intrinsic qualities and attractiveness". The use of cell phones, for example, has spread throughout society because of the obvious advantages they have over traditional landline phones (Mesoudi 2011). Or, research on the spread of stories and rumors show that those stories and rumors which involve "disgusting" elements are more likely to be remembered and transmitted, apparently because human psychology has an innate sensitivity to "disgustingness", which seems to have a "biological evolutionary origin" (Mesoudi 2011, 65).

2. ***Frequency bias***: Cultural variants which are observed in the majority of the population are more likely to increase in frequency over time, because the commonness or rarity of a variant seems to affect people's decision whether or not adopt it. This bias is also called "conformist bias".

[6] Another sub-class under "decision-making forces" is the Lamarckian-evolution-like process of "guided variation", where people introduce *non-random* changes to existing cultural variants (modifications, innovations etc.), which are then transmitted to others in society. Under the effect of guided variation "[t]he system is a little like an imaginary genetic system in which mutations tend to be fitness-enhancing rather than random" (Richerson and Boyd 2005: 116). If, for example, a group of people receives a cultural variant from another group, such as a particular technology or a religious idea, but adopts this variant not exactly as it is but by modifying it so as to make it conform to the existing socio-economic condition, this will exemplify "guided variation".

3. ***Model bias***: Individuals have a disposition to imitate successful and prestigious individuals. So, cultural variants observed in such individuals are more likely to be acquired and transmitted to others. (see Richerson and Boyd 2005)

It might be useful to explain briefly why some evolutionary cultural theorists differentiate between "natural selection" and "biased transmission" as two different forces of cultural evolution. These two kinds of processes refer to different mechanisms of cultural change. For instance, Richerson and Boyd (2005) argue that if "an aversion to addictive drugs" exists in society, maybe because of a successful social campaign in which prestigious people take a stand against drug use (model bias), or because the majority of the population does not use drugs (frequency bias), then this aversion exemplifies the case of biased transmission. (This transmission directly concerns the attitudes of people toward drug use based on their cultural or psychological preferences). But, according to Richerson and Boyd (2005: 79), some people may still end up using drugs, which "could land them behind bars, or otherwise remove them from the pool of people who exercise cultural influence on others". This latter process, which affects the "number of addicts available as models", is an example of natural selection acting on cultural variants (Richerson and Boyd 2005: 80). It is related to what ultimately happens to people who adopt a particular cultural variant in terms of their ability and position to spread that cultural variant to others. So, in this particular case, both processes will play their part in reducing drug addiction in society; and the question, "Which mechanism is more effective?" is simply an empirical question. However, even if in this particular example both biased transmission and natural selection tend to reduce drug addiction in the population, that does not mean that different forces of cultural evolution always operate towards the same result. In other words, at any time in the history of a population conflicting forces of cultural evolution may coexist. This is one of the reasons why theorists of cultural evolution, when analyzing the evolutionary trajectories in a given situation, distinguish in general between two kinds of evolutionary forces: those which tend to keep the society as it is ("inertial" or "conservative" forces), such as the direct acquisition of cultural variants from one's parents, and those which initiate change in the frequency of cultural variants over generations (Richerson and Boyd 2005).

3.1 A Micro-evolutionary Foundation for Veblenian Adaptation?

In the introduction above I mentioned that quite a few commentators on Veblen point to certain problems and issues surrounding Veblenian social theory, which, they claim, leave his evolutionary analysis incomplete. And in the previous section, I argued that one such problem was that Veblen was not always sufficiently clear and explicit about the process of habituation, the process in which people acquire and adopt certain habits of thought and behavior. So, even though Veblen clearly applied a Darwinian way of thinking in his social analysis, he was not always careful to specify the mechanisms of the adaptation of habits to new or existing socio-technological environment. This may be called the problem of Veblenian adaptation. And, if one remembers that in Veblen's analysis institutional change ultimately relies on the change in people's habitual behavior, the importance of this problem may more easily be appreciated.[7]

The major contribution that gene-culture coevolution theory could make to Veblen's theoretical framework lies exactly at points where Veblen left his analysis rather incomplete. With its emphasis on various psychological processes behind social learning and their population-level consequences, gene-culture coevolution theory could supply the micro-level dynamics to Veblenian adaptation of habits. This holds true, I argue, both for Veblen's discussion about the adaptive fit of the institutions of the capitalist pecuniary culture, as well for his historical analysis of the macroevolution of human societies. Even though developing

[7] Veblen was content with explaining institutional change as the cumulative result of the adaptation of habits, and did not give much thought and attention to the mechanisms of this adaptive process. As already alluded above, what really mattered for him was the idea that one way or another people's habitual behavior undergoes an adaptive process of change, and it is this process which is responsible for institutional evolution. In judging Veblen's lack of concern for the details of adaptive change, we must also remember, however, that in his time there was not a consensus, even among biologists, as to the exact mechanisms of this adaptive process. It was largely with the rise of Mendelian genetics in the 20th century that the details of the mechanisms of evolution started to be worked out in biology through the contribution of several generations of biologists. (It was shown, for example, that the Lamarckian inheritance of acquired characteristics was not possible in biological organisms). One can say that the same task awaits the attention and theoretical labor of evolutionary social scientists today. Even though there have been considerable advances in recent years (as, for instance, gene-culture coevolution theory shows), the analysis of the mechanisms of evolutionary social change still needs important theoretical contributions. And, as for Veblen's socio-economic theory in particular, a similar argument can be made with even more force. But still, the stock of theoretical knowledge in other areas of evolutionary social science, even if in need of further development itself, has a lot to offer to make the Veblenian framework more in line with modern evolutionary theorizing today.

a full theory (or, "the" theory) of Veblenian adaptation goes beyond the reach of a single study, focusing on some specific arguments that Veblen made and analyzing them within the framework of gene-culture coevolution theory could be a valuable starting point towards such a goal. In other words, for a given process of adaptation that Veblen brings under analysis, gene-culture coevolution theory could help us specify the mechanisms of change operative in the process (biased transmission, natural selection etc.), and thereby understand how they interact towards their population-level consequences.[8]

For instance, we have seen how in his *The Theory of Leisure Class* Veblen makes the argument that habits under the modern pecuniary culture are shaped within a process of selective adaptation, as those habits which do not conform to the norms of conspicuous/wasteful consumption are eliminated as unfit to survive. Now, given this conclusion, "What are the forces of adaptive change which are at work in this process?". To scrutinize this question we can refer to one very classic example that Veblen gives to illustrate his main argument: the status and use of "machine-made" vs. "hand-wrought" goods under the pecuniary culture. Even though, Veblen argues, the former serve their primary function better than the latter, "[t]his does not save them from disesteem and deprecation, for they fall short under the test of honorific waste" (Veblen [1899] 2007: 106). So, since "[h]and labor is a more wasteful method of production" the habit of using hand-

[8] Let me observe at this point that just like gene-culture coevolution theory, Veblen has integrated human instinctive dispositions into the main framework of an evolutionary social analysis. Unlike Rutherford (1984), therefore, who maintains that anything that Veblen has uttered about human societies could be reformulated without any recourse to human instincts, I would like to maintain that the theory of instincts in Veblen was one of the indispensible constituent elements of his evolutionary social analysis. In fact, Veblen saw the historical evolution of human societies as a battle field for essentially two different kinds of habits and institutions: those that create predatory cultures based on the self-regarding instinct of predation/acquisition, and those that give rise to "peaceful" cultures based on the instinct of workmanship and parental bent (Edgell 1975). However, even though Veblen was quite successful in making innate psychological dispositions, instincts, as an element of the study of human habits and institutions, when it comes to specifying the *mechanisms* in which habits adapt to existing or changing social conditions, he did not incorporate instinctive dispositions, with sufficient clarity and explicitness, into his evolutionary analysis. Perhaps the only exception to this would be his use of the instinct of "emulation" in *The Theory of Leisure Class* as a mechanism of adaptive habituation, and his mention of a disposition to "conform" to the established habits in society. These psychological dispositions used by Veblen play a very similar role to that of biased transmission in gene-culture coevolution theory, as I shall briefly discuss below.

made goods tends to proliferate among the members of the leisure class as a sign of prestige (Veblen [1899] 2007: 106). Furthermore, since lower classes emulate the styles and habits of life of the leisure class, it follows for Veblen that even people from lower classes will find hand-made goods more beautiful as compared to their machine-made counter parts. But the question here is, if there indeed is a tendency under the pecuniary culture for this consumption habit to proliferate, what are the mechanisms of social learning and transmission which are responsible for the spread of this conspicuous taste for hand-made products? What is more, are there any counter mechanisms, even under the pecuniary culture, against the proliferation of this particular consumption habit? To answer such questions, we can consider the tastes for machine-made vs. hand-made products as two different cultural variants existing in society. And then, in line with the framework of gene-culture coevolution theory, we can trace what happens to the relative frequencies of these two different consumption patterns across the population.

So, it can be argued that the content bias in this case will favor the use of machine-made products, because their intrinsic qualities and functions are more serviceable for their primary purpose at a reasonable cost. In line with the approach of Darwinian evolutionary theory, we can think of the content bias in this example as a force/mechanism which tends to increase the use of machine-made products in society. (They are cheap and more serviceable). The model bias, on the other hand, which makes us imitate prestigious people around us, will act to spread the canons of taste of the leisure class throughout society, including the preference for hand-wrought goods in Veblen's formulation. To these one should also add the conformity bias of human psychology, which makes us conform to the behavior patterns of the majority. So, one can argue that if the model/prestige bias outweighs the effects of the content bias and leads to an increase in the conspicuous consumption of hand-made goods, then the conformity bias will further contribute to the spread of this particular consumption habit. The relative frequencies of these two different consumption patterns in society will be determined then according to the relative strengths of different transmission biases effective in the process. Richerson and Boyd (2005) even argue that one can construct mathematical population models, similar to those we find in population genetics, to analyze how exactly the relative frequencies of different cultural variants (patterns of behavior) will change over time.

Another classic example Veblen uses when theorizing the consumption patterns under the pecuniary culture concerns women's dress. "[T]he general disregard of the wearer's comfort" in women's apparel—as "the high heel, the skirt, the impracticable bonnet" and "the corset" are cases in point—shows for Veblen how women's dress signifies conspicuous leisure by making the wearer unsuitable for any kind of industrial employment (Veblen [1899] 2007: 120). Regarding the corset of the late 19th and early 20th centuries, for example, Veblen ([1899] 2007: 114) argues that it "impairs the personal attractions of the wearer, but the loss suffered on that score is offset by the gain in reputability which comes of her visibly increased expensiveness and infirmity." Formulated in the language of gene-culture coevolution theory, Veblen refers here again to the conflicting dynamics of two different transmission biases. The content bias works against the proliferation of the corset as an item of women's apparel because it is uncomfortable and makes women unattractive. But the effect of the prestige bias outweighs, according to Veblen, that of the content bias, making the corset a cultural item of women's dress within a particular socio-economic context. Similarly, if the practice of wearing high heels has proliferated in the course of the 20th century (despite the difficulties and pain which most women complain about), that means, according to a Veblenian analysis, that the preferences and consumption habits of women have evolved in a process where the prestigious bias has played the dominant role.

The analysis of the dynamics of the prestige bias, as Veblen also seems to emphasize, offers very interesting results for our understanding of conspicuous consumption patterns. Richerson and Boyd (2005) argue, for example, that the prestige-biased transmission of cultural variants may trigger a process which leads to the "exaggeration of traits signaling status in human societies". In other words, cultural traits which indicate prestige and status in human societies may create exaggerated and excessively conspicuous behavior patterns. To make their point, Richerson and Boyd (2005) refer to a similar phenomenon in biology called "runaway sexual selection", which explains the elaborate tails of mail peafowls (peacocks). Evolutionary theorist R. A. Fisher had famously argued that even though peacocks with big and long tails are more likely to attract the attention of their predators, and hence more likely to be victims of the force of natural selection, the force of "sexual selection" will favor such showy tails, provided that female peafowls (peahens) have a preference/bias for peacocks with big and exaggerated tails. The key insight that Fisher

offered was that the male offspring of female peafowls with a preference for exaggerated tails would tend to have *the genes both for big and long tails, as well as for the preference favoring such tails*. That means, in subsequent generation we will observe "not only longer-tailed males (on average) but also females with stronger preferences for long tails (on average)" (Mesoudi 2011: 75-76). And in time, "this coevolutionary arms race between preference and trait eventually leads to the elaborate, exaggerated peacock's tail" (Mesoudi 2011: 76).

Richerson and Boyd (2005) maintain that a similar process, what they call "runaway cultural selection", may operate in human societies when traits indicating status and prestige are socially transmitted together with preferences for such traits.[9] So, in this case if the prestige-biased transmission is stronger than other forces acting in the opposite direction, then we should expect to see the emergence of exaggerated, or as Veblen would say, "conspicuous" consumption patterns in the population. Mesoudi (2011) argues, for instance, that the (conspicuous) consumption habit of owning houses of enormous size can be explained with runaway cultural selection. Content bias in this case would favor small-sized houses because they are "cheaper to buy, easier to heat, less likely to be burgled". But if "prestige bias is stronger than content bias, then house size will increase as people copy the 'large house' trait of prestigious models", together with the preferences for large houses. Mesoudi concludes, therefore, that "large houses and preferences for large houses will be copied together, just like large peacock tails and preferences for large peacock tails". This process will eventually result in runaway cultural selection which explains, according to Mesoudi the "exaggerated traits" observed in modern societies, "such as the enormous mansions of celebrities and sportspeople" (Mesoudi 2011: 76).

Besides the institutions of the modern pecuniary culture, the main framework of gene-culture coevolution theory also helps us analyze Veblen's discussion of the macro-historical evolution of human societies. This is not surprising from the point of evolutionary theory, because just as evolutionary biology explains the emergence of new species through

[9] This is again very similar to Veblen's argument in *The Theory of Leisure Class* that the "canons of taste" (preferences) of the leisure class are transmitted to the lower classes, which are in the habit of emulating the former.

the cumulative effects of the forces of evolution, an evolutionary theory of cultural change should similarly account for the existence of different socio-economic systems in the history of humankind. A Darwinian approach to cultural change should explain, for example, the evolutionary mechanisms behind the transition from peaceful savagery to the barbarian culture based on private property and warlike habits of thought. In other words, it should be able to answer the question, "How is it that behavior patterns based on our predatory aptitudes flourished and increased in frequency so as to result in the transition to the barbarian stage"? Or in general, "What are the forces of cultural evolution which are active in the macro-historical transformations of human societies"? In thinking about such questions from a Darwinian perspective, we should note that one could have different theoretical arguments for the "sources of variation", that is for the initial emergence of a different behavior pattern. Similarly, one could propose different theories emphasizing the role and importance of different "forces of cultural evolution". But all these different theories of cultural change—if they are to be classified as Darwinian—should be able to explain *the evolutionary mechanisms responsible for the change in the relative frequencies of different behavior patterns*.

Veblen, for instance, when analyzing the institution of ownership, seems to accord the key role to the "instinct of emulation", both as a source of variation (the source of the emergence of ownership as a new institution), and also as a force of cultural evolution that lies behind the development and flourishing of the institution:

> The motive that lies at the root of ownership is emulation; and the same motive of emulation continues active in the further development of the institution to which it has given rise and in the development of all those features of the social structure which this institution of ownership touches. (Veblen [1899] 2007: 22)

It is important to observe here that similar to gene-culture coevolution theory, which puts forward certain psychological dispositions of human nature as mechanisms of cultural change (content bias, prestige bias and conformist bias etc.), Veblen ascribes to the instinct

of emulation a key role in the explanation of the institution of ownership. So, in his general theory of institutional change, Veblen shares with gene-culture coevolution theory the idea that innate psychological dispositions of the human mind play their parts in the emergence and development of established behavioral patterns in society. But, as I have already mentioned above, in Veblen, unlike in gene-culture coevolution theory, we do not find an explicit reference to the theoretical category "forces of cultural change", which appears as an indispensible element of contemporary Darwinian thinking on cultural evolution. This prevents Veblen from formulating the problem in precise Darwinian terms, and hence from analyzing it with respect to a variety of different mechanisms of cultural evolution: What were the mechanisms involved in the transition to the barbarian culture, in which claiming ownership to things became one of the established habits in society? Did this happen because those having property tenures were somehow able to achieve social power and prominence, and thus served as prestigious role models for others? Or, were there also other mechanisms involved? (Could we also argue, for example, resorting to a group selectionist perspective, that societies which first established predatory institutions, including property ownership, were able to dominate others which had more peaceful habits of life?). Whatever the answers to such questions might be, Veblen's lack of explicit reference to forces of cultural change might be the main reason behind the prevalent verdict that he did not clearly theorize the mechanisms of change in his evolutionary analysis.

As far as Veblen's analysis of the effects of the machine industry is concerned, we can make a similar observation. Veblen seems to argue here that habituation to the discipline of the machine industry will undermine the institution of ownership, as habits of thought based on the instinct of workmanship, rather than our self-regarding/predatory instincts, proliferate throughout society—especially among the skilled workmen and engineers. This will demolish, according to Veblen, the institutional basis of the business culture and could lead therefore to the establishment of a new socio-economic system, where the leading figure of the economy would be not the businessmen but the engineers. But again, Veblen does not really provide the details about the evolutionary dynamics of this process: What are the forces of cultural evolution operative under industrial capitalism which, Veblen expects, will engender such a result? And, in what relations do they stand to one another? One could say that the course of the 20th century has proved Veblen wrong, as more and

more engineers established, or aspired to establish, their own companies and acted as CEOs or high-level business officials. That means that under the conditions of modern corporate capitalism, habits of thought which support the business culture have found it easier to flourish among the engineers. In reference to the "natural selection of cultural variants", we can argue that, given the conditions of the business culture, those engineers who adopted business-like habits of thought have been more successful in business terms, and therefore have served as role models for younger generations. Others, on the other hand, who perhaps refused to follow the practices of the business world and chose different paths were unable to transmit their habits of thought to younger engineers (Two different life trajectories of Thomas Edison and Nicolai Tesla in the previous century may serve here as an illustrative example).

It should also be mentioned at this point that Veblen was, in fact, quite aware of the existence of conflicting forces of cultural evolution in modern industrial societies: those acting in favor of workmanship habits of thought and those favoring the business culture. He saw "[t]he prevalence of salesmanship, that is to say of business enterprise" as "the most serious obstacle which the pecuniary culture opposes to the advance in workmanship". Based on the discussion so far, we can observe that there is clearly a reference here, at the intuitive level, to two different "forces of cultural evolution" operating in opposing directions. But, as in this case, Veblen's reluctance to develop his intuitive grasp of the matter within an explicitly Darwinian framework has sometimes made it difficult for his readers to appreciate the truly evolutionary foundations of his institutional analysis.[10]

Having said this, one should also observe, however, that the Veblenian framework, with its strong roots in evolutionary social analysis, has the potential to progress along the lines of modern evolutionary theorizing. The fact that the spirit of the 1899 article, even if not always explicit, can be found in much of Veblen's later studies bears testimony to this conclusion. And, as this paper has aimed to demonstrate, recent developments in Darwinian

[10] This could be the reason why Veblen is known as the father of (old) institutional economics rather than that of evolutionary economics. Evolutionary analysis in economics is usually associated with the name of Joseph Schumpeter.

social theory can indeed do much to awaken this spirit in the Veblenian tradition and to make Veblen's ideas an important part of contemporary Darwinian social analysis.

5. Concluding Remarks

In a famous passage in his *The Theory of Leisure Class*, Veblen argues that "[t]he evolution of social structure has been a process of natural selection of institutions", a process, in other words in which the "natural selection of the fittest habits of thought" underpins and guides the evolution of social institutions. This passage has been referred to or quoted many times in the literature—and quite rightly so I believe—as the *prima facie* evidence for the Darwinian foundations of Veblen's theory of institutional change. It shows that Veblen uses the term "natural selection" not simply as a metaphor borrowed from biology but as a theoretical concept which explains how social institutions change in reality. This makes him one of the forerunners of the current known today as Universal Darwinism, which argues in favor of the validity of Darwinian principles in many different domains outside biology, including the socio-economic realm.

I have argued in this paper that gene-culture coevolution theory has the conceptual tools to turn this insight of Veblen into a more consistent and robust analysis of evolutionary institutional change. Since Darwin's and Veblen's time, much progress has been shown, especially in the second half of the 20th century, in the application of Darwinian principles to explain human behavior, culture and societal change. Emphasizing the relation between innate dispositions of human psychology and cultural learning processes, Darwinian social scientists have shown how genetic and cultural evolution have mutually shaped human behavioral patterns, and hence human social institutions. These recent developments bear special significance for the Veblenian framework because they have the potential to make Veblen's theories "communicate" with contemporary Darwinian social theorizing by expressing them in the latter's conceptual language. This communication, it should be expected, will not only contribute to the further development of Veblenian socio-economic theory but also enable today's Darwinian social theory to benefit from one of the most important evolutionary social theorists of the early 20th century.

Finally, let me also briefly emphasize that this recent revival of Darwinian thinking in the behavioral and social sciences could play an important role in closing the gaps that have traditionally existed among different disciplines in these fields. Even though no one disputes the importance of interdisciplinary research for the advancement of scientific knowledge, given the fragmented structure of the academia today, many scientists find it not easy to engage in productive communication, let alone collaborative research, with fellow scientists in other disciplines. Researchers in the evolutionary sciences community, however, seem to have overcome this obstacle thanks to the unifying structure provided by Darwinian theory. Evolutionary psychologists, for example, use insights from evolutionary biology when formulating their theories about the adaptive cognitive structures of the human mind (see Barkow *et al*. 1992). Similarly, evolutionary social scientists make use of these psychological theories in their explanations of socio-cultural evolution, as we also discussed above. A thoroughly consistent body of knowledge about human behavior and society has started to emerge thereby, where theories from different disciplines complement rather than contradict each other. (Consider, for example, how little of the stock of knowledge about human behavior, which is accumulated in psychology through years of meticulous research, finds its way into economic theory—not to mention the fact that mainstream economics still uses assumptions which many researchers in the behavioral sciences believe to be problematic). If, therefore, economic science will ever be a part of this collaborative endeavor of evolutionary sciences community, the Veblenian framework, which already shares the fundamental evolutionary principles, will have a comparative advantage in this regard over other schools of thought in economics. But, there is still need for further research by Veblenian scholars and historians of economic thought to develop Veblen's socio-economic theory along the lines opened up by contemporary Darwinian thinking in the social sciences.

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