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ON THE NATURE OF CONSPICUOUS CONSUMPTION: LINKING EVOLUTION, AMERICAN OLD INSTITUTIONALISM AND METHODOLOGICAL ISSUES

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On the nature of conspicuous consumption:

Linking evolution, American old institutionalism and methodological issues

Dissertação apresentada como requisito para a obtenção do grau de Mestre pelo programa de Pós-Graduação em Economia do Desenvolvimento da Escola de Negócios da Pontifícia Universidade Católica do Rio

Orientador: Profa. Dra. Izete Pengo Bagolin

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Lukas Reiter Pezzini

ON THE NATURE OF CONSPICUOUS CONSUMPTION: LINKING EVOLUTION, AMERICAN OLD INSTITUTIONALISM AND METHODOLOGICAL ISSUES

Dissertação apresentada como requisito parcial para a obtenção do grau de Mestre em Economia, pelo Mestrado em Economia do Desenvolvimento da Escola de Negócios da Pontifícia Universidade Católica do Rio Grande do Sul.

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RESUMO

Neste artigo, propõe-se um diálogo entre o trabalho de relevantes expoentes da escola de pensamento do institucionalismo americano; Walton Hamilton (1919), Thorstein Veblen (1898, 1899), e os escritos de Geoffrey Hogdson (1998; 2004; 2010), Ulrich Witt (2008; 2010; 2011; 2013), Wolfhard Kaus (2013) e Karin Knottenbauer (2010). Argumenta-se que o que une tais autores é a busca por traços evolutivos do comportamento econômico. Analisa-se o caso da categoria consumo conspícuo e de suas raízes evolutivas. Para tal, primeiro apresentamos ao leitor um resumo do que é a essência do institucionalismo americano e as proposições de Hamilton (1919) para uma teoria econômica que adota a dinâmica em vez da estática. Em seguida, é apresentada uma exposição da teoria do consumo conspícuo de Veblen (1899), possibilitando o posterior vínculo entre características evolutivas e o tópico da conspicuidade. O artigo prossegue com um apelo para que os economistas evolucionistas modernos prestem mais atenção às questões ontológicas e epistemológicas ao abordar o tópico do consumo na ciência econômica. Aqui os trabalhos de Campbell (1993) e Zahavi (1975) são úteis para esclarecer os fundamentos evolutivos do ato de consumo conspícuo, seu comportamento emulativo e a possível emergência de um comportamento de consumo inovativo. A partir desta abordagem estilizada, nossas conclusões mostram que a economia evolutiva ainda não ofereceu uma estrutura interpretativa robusta ao lidar com categorias econômicas importantes, como o consumo conspícuo. Além disso, a falta de um constructo de categorias explicativas interligadas está no centro dos desafios ontológicas e epistemológicas que a teoria enfrenta atualmente.

Palavras-chave Evolução • Economia evolucionária • Consumo • Consumo conspícuo • Institucionalismo americano • Economia institucional

Classificação JEL B15 • B25 • B41 • B52 • D11 • O10

ABSTRACT

In this paper we aim to propose a dialogue between the work of main exponents of what is known as American Old Institutionalism (AOI); Walton Hamilton (1919), Thorstein Veblen (1898, 1899), and the writings of Geoffrey Hogdson (1998; 2004; 2010), Ulrich Witt (2008; 2010; 2011; 2013), Wolfhard Kaus (2013) and Karin Knottenbauer (2010). It is argued what unites all these authors is the search for evolutionary traits of economic behavior. The case is made for the category of conspicuous consumption and its evolutionary roots. To do so, we first present the reader with a brief of what is the essence of the American Old Institutionalism (AOI) and the propositions of Hamilton (1919) for an economic theory that would embrace dynamics instead of statics. Then, an exhibition of Veblen's (1899) conspicuous consumption theory is offered, making it possible for the future linkage between evolutionary features and the topic of conspicuity. The paper proceeds with an appeal for modern evolutionary economists to pay more attention to the matter of ontology and epistemology when approaching the topic of consumption in Economics. Here the work of Campbell (1993) and Buss (2008) come handy to clarify the underpinnings of the act of conspicuous consumption, its emulative behavior and the eventual consumption novelty. Within that stylized approach, our conclusions show that evolutionary economics still has not offered a robust framework when dealing with key economic categories such as conspicuous consumption. Also, the lack of linked explanatory categories is at the core of the ontological and epistemological issues the theory faces nowadays.

Keywords Evolution • Evolutionary economics • Consumption • Conspicuous consumption • American Old Institutionalism • Institutional economics **JEL Classification** B15 • B25 • B41 • B52 • D11 • O10

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1 Introduction

Evolution is everywhere in life. Under a Darwinian perspective, the evolution process sees phenomena as continuous actions dynamically changing. In mainstream economic science, evolution remains in second plane, while the norm of comparative statics and the equilibrium framework take the main stage. The undertaking of an evolutionary perspective about economic issues has room for improvement, despite the recent upward trend among the literature that shows an increasing interest on the matter (Witt, 2008). The scope of a wholehearted evolutionary science of economic behavior should rely on a list of principles as ranked by Hamilton (1919), and ought to pay its respects to the work of Veblen (1898, 1899). In contemporary times, Hogdson (1988, 2001, 2004, 2008) and Witt (2001, 2008, 2010, 2013) have managed to put forward the discussion of whether economic science should become an evolutionary science of economic behavior, exposing both ontological and heuristic (epistemological) traits of a theory of the kind. In the realm of anthropology, psychology and geography, evolutionary aspects have successfully been demonstrated to be relevant to the comprehension of the phenomena observed. Alternatively, economics –or political economy- have embraced evolutionary insights especially in the discussion of technology and structural change, within a Neo-Schumpeterian tradition (Dosi et al., 1988).

Nevertheless, Veblen's proposition for an evolutionary economic science has not become widespread yet. Hence, this paper draws on the tradition of the AOI¹ and hold its evolutionary aspects as fundamental to explain the phenomenon of the conspicuous consumption under an alternative and purposeful fashion. Our main goal is to continue the work of evolutionary economists that came before us, emphasizing more the endogenous (status seeking) and less the exogenous (disposable income) variables that could directly or indirectly affect the decision-making process for what conspicuous consumption is concerned. Thus, our problem should be interpreted in a historical-deductive fashion² in order to grasp the details underlying the chosen subject and to draw the big picture of the phenomenon in question. In a way, the whole idea of this article is to point out the similarities between Veblen's undertaking and the recently increasing literature on conspicuous consumption and its evolutionary basis such as in Cruz (2014) Hogdson (2005), Huang (2015), Kaus (2017) Witt (2016) among others.

¹ Also referred to Original American Institutionalism.

² In Hamilton's (1919) lexical our approach is *genetic* rather than purely historical.

If the act of consumption has got the attention of many scholars dealing with themes such as income allocation, inequality, consumerism, economic growth and distribution theory, not as many studies have focused on the role of the self and the formation of a sort of ideal consumer in the development of behavioral patterns in tastes, norms and more specifically, to habits and routines. In short, the evolutionary basis for a view of conspicuous consumption would benefit from exploring the ontological matter in question and the ways in which the habit of thought of consumerism has gain so much power into the figure of the modern man. The archetype of the Veblenian consumer is an individual that molds and is molded by the social environment, it is not only a puppet in a theater of unknown consumer figures and plays a major role in performing the consumption act itself. Its social prestige relies on the capacity to build on the pecuniary emulative behavior and to design an ideal figure of itself among its peers. For that, there is a vast literature in evolutionary psychology (Buss, 2008; Sundie et al., 2010; Potts, 2015) that elucubrates on the mental aspects of such an economic action. We come from a perspective that elucidates not only the economical aspects of the decision-making process of consumption, but also point out some psychological features that are vital for the grip of an economic action such as the conspicuous consumption.

In that spirit, we wish to draw on the research program embodied by Hamilton and Veblen when they called for a "genetic" and "evolutionary" framework³ and stay in line with the recent literature which is concerned about the foundations of a more process-oriented way of relating to economic issues (Rengs & Wäckerle, 2018). To stress the common ground in which the previously cited authors work on is vital for our objective here. For that, we choose to link the methodological aspects of ontology and epistemology to evolution; aiming to make some considerations about the status of evolutionary economics itself. Thus, the contribution of the work that comes next is precisely that of linking the concept of conspicuous consumption to its ontological and epistemological aspects, adopting an evolutionary scheme as its north.

³ "We need constantly to remember that in studying the organization of economic activity in general as well as in particular, we are dealing with a unified whole which is in process of development. To this method the terms "historical" and "genetic" are frequently applied. The first, because of the associations which the word history brings up, is particularly unfortunate. It suggests an account of things which have happened to the subject of discussion during a definite period. Its emphasis is wrong because it is upon the accidental facts of past associations, not upon the essential nature of current reality. If it is rightly understood the term "genetic" is much better. But it must not be allowed to suggest a far-away, uninteresting, and irrelevant search for "origins." It must mean what the word so clearly implies that the thing is "becoming." Thus, used the word "genetic" suggests, not a historical account, but a method of analysis. It goes to the past only with the end in view and so far as is necessary to ex-plain what a thing is in terms of how it came to be" (Hamilton, 1919, p. 315-316). (Emphasis by the author).

Furthermore, evolutionary economics does not consist a unified branch of methodological paradigm. As Witt (2010) shows, evolutionary economists seem to ignore what assumptions are made in the process of defining the object under scrutiny, while spending most of the effort on instrumentalism aspects related to the object of study. Due the diversity of interpretations of the evolutionary nature of economics and its vast complexity, we do not wish to tackle all the problematic involved in the phenomenon in vogue. Alternatively, we offer an overview of the act of conspicuous consumption using a rather uncommon framework inspired by the work of the AOI and based upon its evolutionary foundations.

In a nutshell, the addressed questions regarding conspicuous consumption, its evolutionary basis and the related ontological and epistemological matters will be treated in a way that fits in an evolutionary background (Hodgson, 2010). Even though a lot has been written and discussed on how the diffusion of technology can be understood as an evolutionary process (Dosi & Nelson, 1994; Nelson & Winter, 1982 and Metcalfe & Steedman, 2011), not much effort has been made by economists worried about the ontological and epistemological aspects of economic evolution itself (Hogdson, 2010). Applied to the act of conspicuous consumption, the ontological creed of monism⁴ – in the sense of Witt's continuity hypothesis - and the heuristic twist of Darwinian concepts seem to shed light on the reasons economic agents behave in the way they do and contribute to the literature on evolutionary economics and its philosophical appraisal (Hogdson, 2010). Furthermore, we must keep in mind that an economic process must fulfill some basic criteria to be considered a good example of an evolutionary phenomenon, but that does not imply all economic actions can be understood via a Darwinian foundation (Witt, Alternatively, we wish to set the evolutionary process of conspicuous consumption under a rather historical-evolutive perspective, thus, linking concepts such as emulative behavior and predatory instinct to a more broadly oriented point of view. Accordingly, Witt (2010) points out the fact that despite there are common assumptions shared by different topics of interest in the field of Evolutionary Economics, other areas

⁴ Witt (2008) writes on two main different ontological views of the structure of reality: monism and dualism. Monism sees all spheres of life interconnected, what generates an interdependence between economic and nature in the evolutionary process of change. It must be clear that the latter does not imply both instances evolve identically, instead, the evolution of man-made stuff is constrained by the evolution of nature. Thus, the mechanisms of man-made evolution that have generated within the natural world have done so on a different basis than natural selection and descent. Dualism, on the other hand, sees economic and biological evolutionary features as completely disconnected, neglecting the relevance of all human genetic endowment on the cultural and economic evolution and behavior.

such as Evolutionary Psychology (Buss, 2008; Miller, 2014; Pinker, 2003), New Institutional Economics (Nelson & Winter, 1982; Richter, 2005) and Evolutionary Anthropology (Bisin & Verdier, 2010), managed to develop a more detailed and ontology-oriented theory of evolution for the development of features related to those areas. Therefore, the current study goes through some methodological aspects and points to what an evolutionary framework should look like in an institutional approach that focuses on the role of the emulative process (embodied in the conspicuous struggle), showing that a member of the leisure class is the main character of the novelty behavior that leads to the respective emulation by its peers and to dissemination towards other income and social classes. (Veblen, 1889; Hamilton, 1919).

Being a study oriented to methodological issues as theoretical ones, we wish to understand a little more reality itself (ontology) and to comprehend how we know something in reality (epistemology). Being aware of the philosophical assumptions common to studies of evolutionary inspiration is a necessary step towards a more complete theory of institutional change and the role conspicuous consumption plays at it. So, let us proceed to the next session to present the AOI (2), the framework used by Veblen (3), the necessary ontological and epistemological aspects of an evolutionary theory⁵ (4) and the link between conspicuous consumption and evolutionary economics itself (5). The paper concludes with general remarks about future studies.

⁵ These necessary aspects are based on the work of Witt (2010; 2013). The author is aware that other points of view exist and that no perfect explanation of the phenomena studied here is likely to proceed.

2 The American Old Institutionalism and the appeal of Hamilton (1919)

By means of the old, we come to know the new.

Confucius

The present session draws on the theoretical background of the AOI, the appeal of Hamilton (1919) for a theory of the institutions that would unify economic knowledge. Walton H. Hamilton on his seminal paper of 1919 pointed out and established the motives for institutional economics to be treated as economic theory. Back then the study of institutions was a subject related to sociology and political science, what explains part of its richness in dealing with economic phenomenon (Rhodes, 2011). He was the first scholar to use the term institutional economics to define an interpretation of economic theory that would embody non-economic aspects of the economic world. The ten pages stressed out the importance for a theory to be connected to economic reality, which was not the case of the neoclassical theory just emerging in the eve of the 20th century (Hamilton, 1919). In that spirit, he presented five main characteristics that any economic theory must be able to hold and argued institutional economics to be a real doctrine, therefore, owning the status of theory. All five attributes cited by Hamilton⁶ dialogue with the topics studied by the founding authors of the AOI, namely: Thorstein Veblen, John Commons (1959) and Wesley Mitchell (1967). Quite remarkable is the density of Hamilton's article and his meaningful critiques to the static feature of economic theory back then. The main topic drawn by Hamilton is the problem of how likely is for a theory to grasp the reality underneath its assumptions, the former being far more complex than the latter. Throughout the text, there is a clear divergence with the neo-classical theory on the matter of ontology and epistemology, making it possible for the argument of a new theory of economic action that would comprehend constant variability as the core of economic life. Onwards, institutional economics has become a polysemic word and started to spread its explanatory range to sociology, anthropology and even political sciences (Hogdson, 1998). As it turned out to be, the dispute for who managed to better explain economical dynamics made economists working close to such a paradigm become quite well known before the Keynesian revolution has taken place⁷.

Despite the fast paced development economic science went through in the beginning of the 20th century, Hamilton managed to grasp the essence of what Veblen (1898) show to

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⁶ They are: 1. Economic theory should unify economic science. 2- Should be relevant to the modern problem of control. 3- The proper subject-matter of economic theory is institutions. 4- Economic theory is concerned with matters of process. 5- Economic theory must be based upon an acceptable theory of human behavior (pg. 316, 1919).

⁷ See Rutherford (1997) for an appraisal of the history of economics and AOI.

be the reasons urging for a more complex theory that could deal with the evolution of economic actions rather than only with the statics of economic phenomenon⁸ (Cruz, 2014). Hamilton's text writes on trying to sustain a theory that would see the economy as a dynamic system continuously evolving. (Saviotti & Metcalfe, 1991). Here, we can notice the evolutionary tone deliberately used in an important text for the institutional thought. At its eve of times, AOI was part of the basics of what would have become known as an evolutionary approach to economic dynamics (Hogdson, 2010). It is relevant if not essential to point out that the adjective evolutionary has more to do with permanent change than with an irrelevant search for "origins" (Hamilton, 1919). Mainly, we can say that the classical economists of AOI were worried about what their object of interest would become rather than its current attributes back then. The latter becomes clear in the end of the texts, when Hamilton writes on the future of institutional economics⁹, and calls the reader's attention to the suitable assertion made more than a century ago.

Notwithstanding, it is useful to point out what is the essence of that body of knowledge known today as the AOI. Usually, it is defined by the collection of work that describes cumulative processes happening between heterogeneous individuals under the same social and mental structures and within quasi-homogeneous individuals under different social and mental structures. This definition relates to two terms used in the literature, which are reconstitutive downward causation (Hodgson, 2004; 2010) and cumulative causation (Veblen, 1899). Its ontology is then characterized by the realization that not only are the level of the social structure, norms and formal institutions important to explain individual activity, but at the level of the individual there is also capability to change the shape of the meso-level structure. Differently, there is an evolving relationship between what the individual seeks and aspires at the individual level and the definition of

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⁸ Of the text: "Value theory deals with its phenomena as if they were physically complete, independent, unchangeable substances. The only variations, which it admits, are quantitative. At the beginning of one of its problems, a certain situation exists; then a disturbing force makes its appearance; this is followed by a series of actions and reactions, which continues until the normal is restored, or an equilibrium is reestablished. By adding or subtracting units from a combination or by combining equations, formulas are found in terms of which economic values may be reduced to pecuniary terms. Such a method of procedure has, quite appropriately, been called "economic statics." (pg. 314-315, 1919).

⁹ "The future of institutional theory is uncertain. [...] If the next decade demands formal value theory that avoids a discussion of what economic order is like, institutional economics will fail. If it demands an understanding of out relationship to the world in which we live, it will survive. But survival will be assisted by the development of a theory of the economic order, vital, true, and relevant to the problem of the times" (pg. 318, 1919).

how the individual should behave accordingly to a certain superstructure or to a specific institutional arrangement at the level of human behavior.

Nonetheless, the habit of conspicuous consumption, as all the social habits in a modern economy, are embedded by social and mental constraints. Hence, the plea of Hamilton for an economic science that would embrace social psychology and factors other than economic ones, fall in line with the concept of reconstitutive downward causation used by Hogdson (2010) and converge with the category of cumulative causation expressed by Veblen (Monasterio, 1998). In short, those two concepts deal with the idea that the chance of existence of an equilibrium point around which the economic variables gravitate is at best unlikely to exist. The central point in any economic analysis should be dynamics rather than statics, since the end of any evolutionary process seems to be inexistent (Veblen, 1898), generating what is called an evolutionary continuum. Accordingly, the pressure that the higher-level entities put upon the lower level entities is permanent but does not fully constraint the latter's activity. Ultimately, the agent in below choses its action while observing the path that the agent in an above hierarchy sets as the standard way of doing things. That does not exclude the possibility of emergence of new behaviors, it merely sets the expected behavior of most agents. The story of conspicuous consumption follows those two concepts.

3 Veblen and the concept of conspicuous consumption

This paper builds greatly on the work of Veblen (1899), thus following an explanatory sequence of actions that aim to apprehend the evolution of the phenomenon of conspicuous consumption. Under the dome of pragmatism and historical oriented thinking 10, Veblen tackled the matter of consumption in an innovative fashion. From what could be defined as an evolutionary explanation of the dynamics of the habit of conspicuous consumption, the author describes the reasons that lead individuals to establish certain types of patterns of thought that would affect the development of institutions in a society characterized by pecuniary habits, such as the conspicuous consumption itself. To be clear, the concept of conspicuous consumption is usually seen as the acquisition of goods and services linked to the aspiration of achievement of a certain level of social prestige caused by the display of wealth to one's social peers (Zahavi, 1975; Witt, 2010; Chai et. al 2017). It happens between individuals within the same social class or between individuals across different social classes 11.

Regarding the fact such a behavior would ultimately lead to a sort of endless evolutionary loop of consumption and a continuous battle for the fulfilment of the aesthetics of wishes and needs, Veblen recalls the idea that such a pattern has existed since men started to live in primitive groups, thousands of years ago. First, we displayed simple possessions such as a nice spear or a handful of cheese, then we started to display the ownership of women, and lately goods linked to personal care and aesthetics seem to be the norm (Chai & Kaus, 2013). The process of cultural evolution has arrived at its peak at the phase of the Victorian age of the late 19th century, the *belle epoque* of conspicuous waste and pecuniary emulation. On the other hand, the theory of the leisure class managed to grasp the essentials of the pecuniary emulation dynamics that would occur throughout time (Cruz, 2014). A brief look at today's global society points out the importance the category of conspicuous consumption stills holds and its explanatory potential. Led by the intention to obtain social distinction by displaying wealth, a member of the leisure class succeeds on this attempt to be visible among its social peers when these engage into a dispute in displaying who is the fittest, showing-off its wealth by conspicuously acquiring

¹⁰ It is possible to trace the first thoughts on the concept of "path dependence" to the original work of Veblen (1899, 1901) and successively to the work of North, Hodgson and so on.

¹¹ Onwards we chose to use the term income group rather than social class, what best fits the purpose of this paper.

a high-valued good¹². Alongside, the social recognition that comes from the act of spending and displaying the buy elevates the prestige among its peers, causing the individual in question to acquire a higher aesthetical awareness. The value of a conspicuous good is based upon its capacity to provide the highest status possible when displayed. The scarcity of a product as well as the high-priced value fulfil the prerequisites to be considered a prestige item, the object of the act of conspicuous consumption. In terms of the costly signaling theory, the act of conspicuous consumption - the transmission channel - requires an object – an expensive good – in order to offer the signal of high pecuniary power to the other individuals involved in the process. Here, the reconstitutive downward causation fits like a glove in determining the boundaries in which the pressure coming from the conspicuous agents interact with the behavior of those trying to emulate their behavior but are constrained by income factors (Chai et al., 2017). Elsewhere, a more in-depth scrutiny of the real signal behind conspicuous consumption is offered; shortly, it appears to be linked to evolutionary traits that have to do with a mating selection process (Pezzini, 2016). To be efficient, the purchasing of goods needs to be seen by one's social peers or one must actively display the product of acquisition in a public space, increasing the range of the hateful emulation process (Augé, 1995). That way, the signalling process follows the recipe found in the work of evolutionary psychology (Zahavi, 1975; Miller, 2010; Sundie et. al, 2010), in which a public environment is needed to the signaling process to be effective and complete. Ultimately, the act of conspicuous consumption is based upon a game of display in which each player has the intention to show-off its wealth via visible consumption, improving its social position and reproductive chances (O'Cass & McEwen, 2004). It happens on a fast-paced fashion, in which the winner is usually who can afford to spend more, or who is willing to take more credit on the financial market and become indebt (Lee & Mori, 2019). Individuals from different income classes interact on the market, both in an ideal and material level, creating and recreating needs and wants for the pecuniary phenomenon. Also, the psychological underpinnings of the conspicuous consumption

have a great deal of influence on the economic decision of allocating a share of one's

disposable income in a conspicuous good (Witt, 2011), and by doing so indicates that the

habits of thought impact the choices made in the material world by costumers (Veblen,

1899). The latter simply states that the interaction between individuals and the norms and

¹² The term fitness stands for the capacity to compete for something and it is usually used in studies of evolutionary biology, psychology and anthropology.

values of a given society are constantly changing and evolve in a continuous basis, putting forward the idea that there is a dual definition of the act of conspicuous consumption; a habit of thought and a real consumption decision. It is not the intention here to present the debate of which comes first, the habit of thought or the decision of consumption, instead the discussion focuses on the explanatory categories used by Veblen to elucidate the structure of the modern society at his time. The nature vs nurture debate seems to have been put aside, as the literature followed the path of methodological instrumentalism (Witt, 2010).

Ontologically, the author presents the reader with the problem of the underpinnings of human behavior, or the reasons believed to determine one's actions¹³. The epistemological aspects regarding Veblen's work comes from concepts ranging from behavioral psychology, German historicism and reaching the realm of evolutionary studies. The latter is one of the most relevant aspects of Veblen's contribution to economic theory, due to his assertions on the role of habits and routines. By emphasizing economic action is embedded in mental aspects of human psychology, a whole new branch of economics started to be studied, namely the institutionalist school (Hogdson, 2010). Accordingly, Cruz (2014) has pointed out that a part of what has been accomplished by the AOI, and especially by Veblen, have its roots on ethology. There, the general aspects of men behavior consist on the process of transforming those habits into current practices (routines) and finally institutions. See, the latter does not take place in a uniform pace, it happens in a non-ergodic way that is quite normal to the Veblenian analysis of the conspicuous consumption. The individual does not simply follows a rule that is already in vogue in a certain social group, it has the chance to behave differently

¹³ The end of acquisition and accumulation is conventionally held to be the consumption of the goods accumulated — whether it is consumption directly by the owner of the goods or by the household attached to him and for this purpose identified with him in theory. This is at least felt to be the economically legitimate end of acquisition, which alone it is incumbent on the theory to take account of. Such consumption may of course be conceived to serve the consumer's physical wants — his physical comfort — or his so-called higher wants — spiritual, aesthetic, intellectual, or what not; the latter class of wants being served indirectly by an expenditure of goods, after the fashion familiar to all economic readers. But it is only when taken in a sense far removed from its naive meaning that consumption of goods can be said to afford the incentive from which accumulation invariably proceeds. 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. The possession of wealth confers honor; it is an invidious distinction. Nothing equally cogent can be said for the consumption of goods, nor for any other conceivable incentive to acquisition, and especially not for any incentive to accumulation of wealth (Veblen, 1899, p. 14)

and innovate its consumption behavior, even if the general trend remains untouched¹⁴. The latter is deeply connected to the evolutionary aspects of Veblen's work. The emergence of a new pattern in the emulation process coming from the lower income classes is possible and respects the constraints of *reconstitutive downward causation* framework. Under the assumptions of memetic behavior and the relatively free choice a member of any class might have¹⁵ when allocating its income, the epistemology of the Veblenian pecuniary consumer addresses the question of why heterogeneous individuals tend to incur in a search for uniqueness.

Yet, the literature of conspicuous consumption, such as Frank (2007, p.5) define housing expenditures as not only dependable on the need for shelter, but also on a "deprived need for status and social recognition". That statement brings up the question of what drives individuals to consume those items that relate strictly to the need for shelter, not necessarily linked to conspicuous motives. On that matter, Veblen (1898, p.47) elucidates as it follows:

Customary expenditure must be classed under the head of waste in so far as the custom on which it rests is traceable to the habit of making an invidious pecuniary comparison-in so far as it is conceived that it could not have become customary and prescriptive without the backing of this principle of pecuniary reputability or relative economic success. It is obviously not necessary that a given object of expenditure should be exclusively wasteful in order to come in under the category of conspicuous waste.

Shortly, the identification of something as being conspicuous calls for an evolutionary framework, the object of study thus keeps constantly changing. The elaboration of the terminology regarding the pecuniary standards of living addressed the questions proposed by Hamilton (1919) in relation to the evolutionary fashion that a proper study of institutions should follow. Finally, Veblen did not have the data, nor it was his objective to test the hypothesis of a dynamical system characterized by emulation, conspicuous spending and the (re)creation of self-image consequently.

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¹⁴ The Veblenian perspective falls in line with the proposition of later economists to talk about emergent phenomena in a complex world in which social phenomena evolve dynamically (Mäki, 2013).

¹⁵ By relative freedom, we mean the capacity a member of any social group must act differently, to innovate its actions. Such a behavior follows, invariably, the rule of conspicuous consumption; the innovation is just another way of designing a new self, even if it is not that new really.

4 Some Epistemology and Ontology in Evolutionary Economics

As described in the previous section, the basis for an evolutionary perspective inside the field of Political Economy¹⁶ has started around the eve of the twentieth century when the seminal paper from Hamilton (1919) came into light. The role of habits, routines and institutions had Veblen's total attention, and made it very clear for the relevance of those into the process of structural change (North, 1991). An evolutionary approach for the study of economic processes was firstly proposed by Veblen (1898) and still has not found its established place in any economic theory. The fact that some well-known economists have been called evolutionary throughout time could be misleading for a real understanding of what an evolutionary approach should look like (Hodgson, 1998). It seems that a commonly accepted answer is still pending (Witt, 2008). The decision of whether to take economic life as a merely separated part of reality or as being related to countless spheres of social activities defines its perception of reality, therefore its ontology. At the deepest level of understanding of a theory, evolutionary science has managed to do reasonably well in the fields of anthropology, biology, ethology, psychology and so on. On the other hand, in respect to the economic aspects of the human behavior, not much has been accomplished since Veblen's designation of an evolutionary theory of economic behavior. In fact, the usage of the term "evolutionary economics" usually do not imply the study of an economic activity such as consumption under the framework suggested by Veblen; it is often seen as the usage of core Darwinian principles applied to economic life (Hogdson, 2010).

Although one could argue that Veblen did not want to "naturalize" a social science such as Economics, it is clear the author's plea to change the way neoclassical theory sees the process of economic change, i.e., statically and only in quantitative terms, leaving the quality process out of the scope (Veblen, 1898a). Therefore, the choice of scholars working under an evolutionary framework of tackling dynamics instead of statics is quite logical. Here, we are not concerned with the issues of heuristics nor methodology of an evolutionary political economy, focusing at the deeper levels of ontology and epistemology. Nor it is the aim of this paper to tackle the empirical side of the subject in vogue, we fairly see empiricism as being a methodological matter, exhaustively studied in economics (Nelson & Winter, 1982). Despite the great number of studies showing that

¹⁶ We refer to the term evolutionary in the sense of Evolutionary Political Economy. It seems straightforward not to call it Economics, following the terminology used by the European Association for Evolutionary Political Economy (EAEPE).

human behavior receives influence by a series of formal and informal institutions and social activities¹⁷, the role of evolutionary reasons and the importance of habits, instincts and norms for economic and cultural evolution still have a long journey to go through (Witt, 2010).

In that spirit, an interesting way of offering the ontological basis for a truly evolutionary perspective on economics can be found in the continuity hypothesis proposed by Witt (2003). The latter stands as a conjecture about human behavior and to which extent can general Darwinism explain the economic sphere of human action. Contrary to the belief that human behavior is completely constrained by the general Darwinist theory, this hypothesis claims it is only done to a certain level. Observational learning, inference, inventiveness, and intentionality must not be treated as physical activities that are under the power of long-term evolutionary processes (Witt, 2003). In a nutshell, those arrangements happen to develop a separated evolutionary procedure that shape culturally conditioned behavior. In that procedure, agents learn with each other, generating their own adaptation processes that are not directly linked to the basic evolutionary features of the need for reproduction and survival. According to Witt, the criteria of that adaptation dynamics is set by the same agents involved in the procedure, whether in the form of habits of thought or habits of practice. Otherwise, the agents are self-constrained by their innate preferences and their learned preferences and cognitively constructed intentions (Witt, 2003). There seems to be a convergence between Veblen's understanding of human's agency and Witt's approach to economic evolution and the role of skillful individuals play at it.

Nonetheless, conspicuous consumption explored under the lens of an evolutionary framework can be quite an interesting phenomenon, given its relevance nowadays. Thus, the conceptual trends of the analysis should become clear as no explanatory loss will be due to the lack of scientific reasoning. The best common ground evolutionary economists can agree on follows the scope elaborated by Hodgson (2010). It starts with the assertion that the objective world is all about change, but not just any change. It focuses on qualitative change, and involves a series of categories of economic life, such as technology, organisations and the structure of the economy (Schumpeter, 1934 apud

¹⁷ The importance of institutions and organizations have got the attention of many scholars from various fields of research. It could be argued that Marcel Mauss (1925), Thorstein Veblen (1899, 1919), Louis Althusser (1970), Mark Granovetter (1985) and many more wrote on the social behavior within and across the existence of institutions.

Hodgson, 2010). Then, a key element of economic change is the generation of novelty, and its role on economic development. Also, it deals with the complexity of economic interactions. It does not focus the standard nor plane relations, but the substance of the behavioral characteristics in play. In a sense, complexity goes beyond the statement of unpredictability and chaotic phenomena; it touches the ground of human motivation when dealing with the emergence of new behaviors and its connection to non-linearity and uncertainty. Therefore, the common ground seems a bit generic, although its conceptual richness.

Furthermore, the discussion nature vs nurture has lost its meaning in evolutionary economics due to the acceptance of the inexistence of a superstructure that defines all possible outcomes of a social interaction. Alternatively, the emergence of a new technology, habit of thought or pattern of consumption can simply start with the spontaneous act of an individual or income group. Social interactions and conflicts define the outcome, that defines the reconstitutive downward causation program.

Most of the literature that selects an evolutionary approach to undertake the study of economic phenomena stops at the level of heuristics and methodology, sometimes touching the epistemological discussion and rarely reaching the ontological level of abstraction. Institutional economics that follows Hamilton's appeal aim to have a clear understanding of the functioning of economic processes. Take the conspicuous consumption case. Veblen argued that the habits of thought evolved in a pace dependent on social aspects such as the role of industrialism, the way in which pecuniary processes take place within and between social groups and the level of economic development. In the dynamics of emulation in the theory of conspicuous consumption, we find the general structure presented in an evolutionary research. All the moments 1- variation, 2- selection, 3-replication and 4- adaptation are present (Witt, 2014). Epistemologically, the evolutionary approach to the problem of conspicuous consumption follows the lead of Campbell (1993) to whom the evolutionary epistemology relates to human cognition. Furthermore, in line with Buss (2008) and Miller (2010), we see human psychology directly related to the process of natural selection as described by Darwin (2001). The status of the human mind is a by-product of the imperative of the two main instincts present in any entity: the survival and the reproductive instincts. As an evolutionary study, here the step by step of evolution is key to understand the dynamics of any economic activity.

5 The conspicuous consumption under an evolutionary framework

Here, we address the question of the evolutionary characteristics of the act of conspicuous consumption. To stress the role continuity and change -adaptation and variability in Darwinian terminology- is key if we wish to shed some light on the dynamics between social order and individual traits.

Human agency¹⁸ is determined both by the social context it is embedded and the intrinsically evolutive aspects shaping it (Hodgson, 1998). Although there seems to be a vague and partly untrue belief evolutionary economics takes evolution as a merely product of the mechanism described by Darwin, its analysis is far from being reductionist. An economic action such as conspicuous consumption has roots both in natural traits and social aspects (Witt, 2003). Nature and nurture define human action by allowing it to develop and by constraining its possibilities. Hence, human interaction is like a dance where the next step can be predicted and imitated, but not entirely, since there is always space for uncertainty and changing moves. Evolutionary aspects of human behavior are not exclusive of *homo sapiens*, since novelty and change take place in virtually any species. The following illustrates the latter:

Like other animals, man is an agent that acts in response to stimuli afforded by the environment in which he lives. Like other species, he is a creature of habit. But in a higher degree than other species, man mentally digests the content of the habits under whose guidance he acts and appreciates the trend of these habits and propensities. He is in an eminent sense an intelligent agent (Veblen, 1898a, p.1-2).

In that spirit, the explanation offered to the act of conspicuous consumption deals directly with a certain amount of variability and unpredictability, in a world where the dichotomy between nature vs nurture has been overcome. That distinguishes the work of the AOI (especially Veblen) and some of the modern scholars dealing with the matter (Witt, 2010; Hodgson, 2000; Cruz, 2014) from authors such as Nelson & Winter (1982) and North (1990) that see the coevolution of normal rational behavior in a mixed neoclassical approach to Darwinist framework.

The modern social order described by Veblen (1899) was defined by conspicuous spending and the rise of a wasteful logic that would go against any economically rational action in the spirit of neoclassicism, such as industry or trade. The idea that most of that

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¹⁸ Human agency or human action is here addressed as a habit-based act. To the AOI, the habits shape the way humans see the world, act on it, interact with other humans and ultimately create the world we live in. After all, all matters of human life, including beliefs, preferences and rationality are treated as evolutionary adaptations to specific circumstances.

economical behavior could be ultimately traced to the so-called *predatory instinct* and the quasi-incontrollable will to imitate one's richest (fittest) peers translates quite well the process of adaptation through which a species must incur when trying to survive to the environment. Hence, a member of any class will act accordingly to her habits of thought that are acquired from the social norm (environment) and may decide to change her pattern of action by stepping out of that norm, generating novelty. In the theory of conspicuous consumption, such novelties are likely to happen from both an upward and a downward sense. Therefore, the act of conspicuous consumption relates itself to a sort of social scale of what is honorable or conspicuously attractive to buy and to possess. Note that the literature on the matter does not wish to pre-determinate any behavior by assuming Veblen's conception that an individual pattern of consumption will be probably based on the observation of her social peers that are better off. Instead, most of the work done in the field simply adjust the old writings to the empirical analysis available (Kaus, 2013).

Hence, there are the individual and the social environment. The fight for social status and recognition of the self takes place once both the predatory instinct and the availability of income are present¹⁹. In Veblenian terms, to live in society indicates that individuals might engage into a battle for social recognition that would lead to a type of behavior described as hateful emulation²⁰. The social norm or the rule of that specific reality/interaction produces two kinds of individuals as outcomes; mostly are followers, and a few are novelty generators of a new conspicuous trend. That dynamics tells the short version of the story of the pecuniary emulation; whose main character is played by different individuals from different social classes. From a materialistic standing, all one wants is one's social prestige and pecuniary recognition, thus, higher status within its peers. It goes deeper than that. Some scholars argue that what an individual really aims at when engaging in the Jones's game²¹ (Huang & Shi, 2015) is to increase its chances of survival and reproduction (Buss, 2008; Miller, 2010; Knottenbauer, 2010 and others). That is in line with a variety of research in diverse areas such as evolutionary psychology,

¹⁹ The financial systems play a major role in modern economies for a bunch of reasons, one of which is the sum it lends yearly to individuals that seek to engage into the act of conspicuous consumption and therefore the pecuniary emulation it gives birth.

²⁰ Term used by Veblen (1899) to describe the likely insane behavior of conspicuous acquisition typical of a modern society.

²¹ The Joneses game is the archetype of the hateful emulation as found if Veblen (1899). In short, a random individual wish to emulate the consumption pattern of the upper income class (the Joneses), no matter the financial consequences. Sometimes, though, that does not happen, due to economic constraints.

marketing, evolutionary economics and evolutionary anthropology. By showing off its payment capabilities, a consumer tends to increase its chances to make a good social impression among its peers, as it boosts its attractiveness among sexual partners (Sundie et. al, 2010). That is a story to be told in another time though.

6 Conclusions

In this paper it has been argued that evolutionary economics has not yet reached the level of a unified body of thought, despite the efforts coming from a variety of researchers dealing within evolutionary categories. If scholars dealing with economic phenomenon such as conspicuous consumption aim to better comprehend the latent causes of the decision-making processes of daily economic life, there must be a common undertaking towards ontological and epistemological levels of abstraction. In focus, the concepts of reconstitutive downward causation and the continuity hypothesis stand out in theoretical relevance, pointing to the real possibility of advances in the appraisal of economic reality within an institutional-evolutionary background.

Moreover, despite the efforts from evolutionary psychologists and some economists to connect evolution to the demand side of the economy, we argue that the act of conspicuous consumption has not received a fair embracing by the literature. Mostly, when the studies refer to mating selection or inherited advantages (Knottenbauer, 2010), a theoretical issue takes place and the discussion barely find common ground (Vromen, 2008). That happens because of the little familiarity economists have with evolution and the isolation the area finds itself regarding approaches coming from other areas of research.

The apparently disconnected work in the field has at least one aspect in common: the realization that economic processes are in constant evolution. That may strengthen the continuity hypothesis and prepare the terrain for a fertile building up process of putting together all those abstract concepts found in the studies here exposed. After all, economics receives inputs from a rich variety of sciences and evolves permanently, receiving critics and mends until one day it changes, generating a novel way of interpreting reality.

This paper claimed to highlight some of the main features of the evolutionary undertaking that has taken place in noticeable authors ranging within the term institutional economics on the matter of conspicuous consumption and its underpinnings. Despite the peculiar feature of the addressed theme, our conclusions point to a field of study that has not reached the relevance it should, since its economic implications are of a great importance for modern societies (Witt, 2016). Hopefully the linkage between the work of Hamilton, Veblen, Witt and up to date scholars interested on the above matter will instigate some young economists to take a look at evolution when dealing with their topics of interest in economics; such as wealth, consumption led regimes and the distribution of income within and across countries.

Bibliography

Althusser, L. (1970). *Ideologia e aparelhos ideológicos do Estado*. Lisboa, Ed. Presença.

Augé, M. (1995). Non-places: Introduction to an Anthropology of Supermodernity. Cultural Studies.

Bisin, A., Verdier, T. (2010). "The economics of Cultural Transmission and Socialization". NBER Working Paper, No. w16512.

Buss, D. M. (2008). *Evolutionary psychology*: the new science of the mind (3rd ed.). Pearson Books.

Campbell, D.T. (1993). *Evolutionary Epistemology*. In: Radnitzky, G., Bartley, W. W. Evolutionary Epistemology, Rationality and the Sociology of Knowledge. Chicago, Open Court.

Chai, A., Kaus, W. (2012). "Conspicuous Consumption and the Distribution of the Income within Social Groups". Griffith Business School. Discussion Paper Economics, 02.

Chai, A., Kaus, W., Kiedaisch, C. (2017). "Conspicuous Spending and the Income Distribution of Social Groups". Working Paper. University of Zürich, Switzerland.

Commons, John, R. (1959). *Institutional economics:* its place in political economy. Madison: University of Wisconsin Press.

Conceição, O. A. C. and Agne, C. L. (2018). "From habits to institutions: analytical and methodological propositions in the Thorstein Veblen Institutional Economy". Redes, Universidade de Santa Cruz do Sul, 23 (2), May-August.

Cruz, M. (2014). Thorstein Veblen: O teórico da Economia Moderna (1st ed.). e-book.

Darwin, C. (2001). *On the origin of species*. The Pennsylvania State University, Electronic Classic Series.

Dosi, G., Freeman, C., Nelson, R., Silverberg, G. and Soete, L. L. (1988). "Technical Change and Economic Theory". Pinter, London.

Dosi, G., Nelson, R. (1994). "An introduction to evolutionary theories in economics". Journal of Evolutionary Economics, 4(3), p. 153-172.

Frank, R. H. (1985). "Choosing the right pound: Human behavior and the quest for status". Journal of Economic Behavior & Organization, 7, p.324-336.

Granovetter, M. (1985). "Economic action and social structure: The problem of embeddedness". American Economic Journal of sociology, 91(3), p. 481-510.

Heffetz, O. (2011). "A test of conspicuous consumption: visibility and income elasticities". The Review of Economics and Statistics, XCII, (4).

Hodgson, M. G. (1998). "The approach of institutional economics". Journal of Economic Literature, 36 (1), March, p. 166-192.

Hodgson, M. G. (2004). "The evolution of institutional economics: agency, structure and Darwinism in American institutionalism". Routledge, New York.

Hodgson, M. G. (2010). "A Philosophical perspective on Contemporary Evolutionary Economics". Papers on Economics & Evolution, 1001, Max Planck Institute, Jena.

Huang, L., Shi, H-L. (2015). "Keeping up with the Joneses: From conspicuous consumption to conspicuous leisure?". Oxford Economic Papers, 67 (4), p. 949-962.

Kappeler J., Schütz, B. (2012). "Conspicuous consumption, inequality and debt: The nature of conspicuous consumption-driven profit led-regimes". University of Linz.

Kaus, W., (2013). "Conspicuous Consumption and "Race": Evidence from South Africa". Journal of Development Economics 100 (1): 63-73.

Knottenbauer, K. (2010). "Recent Developments in Evolutionary Biology and their relevance for Evolutionary Economics". Papers in Evolutionary Political Economy, 11, Philipps University Marburg, Department of Geography.

Lee, K, O., Mori, M. (2019). "Conspicuous consumption and household indebtedness". Real estate economics. ISSN 1540-6229.

Mäki, U. (2013). "Contested modelling: The case of economics". To appear in Models, Simulations and the Reduction of Complexity. Walter de Gruyter, Berlin and New York. Marin, S., Rohenkohl, J. E., Moura, A. C. (2017). "As características de uma teoria econômica evolucionária". ANPEC's XX Economics meeting of the South region.

Mauss, M. (1925). The gift. Cohen & West, London.

Metcalfe, S., Steedman, I. (2011). "Herr Schumpeter and the Classic". Papers on Economics and Evolution, 14, Philipps University Marburg, Department of Geography. Miller, G. (2010). *Spent*: Sex, *status and the secrets of consumerism* (1st ed.). Penguin Group.

Mitchell, Wesley, C. (1967). *Types of economic theory;* from mercantilism to institutionalism. A. M. Kelley, New York.

Monasterio, L. M. (1998). Guia para Veblen: um estudo acerca da economia evolucionária. Edufpel, Pelotas.

Nelson, R., Winter S. (1982). *An evolutionary theory of economic change*. Belknap Press, Harvard.

North, C. D. (1991). "Institutions". The Journal of Economic Perspectives, Vol.5, No 1, p.97-112.

North, C. D. (1993). Nobel Prize Lecture. In: https://www.nobelprize.org/prizes/economic-sciences/1993/north/lecture/.

O'Cass, A., McEwen, H. (2004). "Exploring consumer status and conspicuous consumption". Journal of Consumer Behavior, 4, 1, p.25-39.

Pezzini, L. R. (2016). "Designing the ideal self: The art of visible consumption – An essay on six selected economies". M.sc thesis. Università Politecnica delle Marche, Ancona.

Pinker, S. (2003). The blank state: The modern denial of human nature. Penguin.

Rengs, B., Scholz-Wäckerle, M. (2018). "Consumption & class in evolutionary macroeconomics". Journal of Evolutionary Economics.

Richard, R. (2005). "The new institutional economics: its start, its meaning, its prospects". European Business Organization Law Review, 6(2), p. 161-200.

Rutherford, M. (1997). "American Institutionalism and the history of Economics". Journal of the History of Economic Thought, 19(2), p. 178-195.

Saviotti, P. & Metcalfe J.S. (1991). *Evolutionary theories of economic and technological change*. Harvard Academic Publishers, Reading.

Schumpeter, J. A (1934). *The theory of Economic Development*: An inquiry into Profits, Capital, Credit, Interest and the Business Cycle. Harvard University Press, Cambridge, MA.

Sundie J., Griskevicius, V., Vohs, K., Kenrick, D., Tybur, J., Beal, D. (2010). "Peacocks, Porsches and Thorstein Veblen: Conspicuous Consumption as a Sexual Signaling System". Journal of Personality and Social Psychology, 100, p. 664-680.

Veblen, T. B. (1898). "Why Is Economics Not an Evolutionary Science?". Quarterly Journal of Economics, 12 (3), July, pp.373-97.

Veblen, T.B. (1899). *The Theory of the Leisure Class*: An Economic Study in the Evolution of Institutions. Macmillan, New York.

Veblen, T.B. (1919). The Vested Interests and the state of Industrial Arts.

Vromen, J. J. (2008) "Ontological issues in Evolutionary Economics: The debate between Generalized Darwinism and the Continuity Hypothesis". Papers on Economics and Evolution, N° 0805, Max Planck Institute, Jena.

Witt, U. (2001). "Learning to consume – a theory of wants and the growth of demand". Journal of Evolutionary Economics, 11, p.23-36.

Witt, U. (2003). *The evolving economy*. Edward Elgar Pub.

Witt, U. (2008). "What is Specific about Evolutionary Economics?". Journal of Evolutionary Economics, 18, p. 547-575.

Witt, U. (2010). "Economic behavior – Evolutionary vs. Behavioral Perspectives". Papers on Economics and Evolution, 2010-17, Philipps University Marburg, Department of Geography.

Witt, U. (2011). "Symbolic consumption and the social construction of product characteristics". Structure change and Economic Dynamics, 21, p. 17-25.

Witt, U. (2013). "The future of Evolutionary Economics: Why Modalities Matter. Journal of Economics and Evolution, 10, (4).

Witt, U. (2017). "The evolution of consumption and its welfare effects". Journal of Evolutionary Economics, 27, p. 273-293

Zahavi, A. (1975). "Mate selection – a selection for handicap". Journal of Theoretical Biology. P. 202-214.