


THE BIRTH OF *HOMO ÆCONOMICUS*: THE METHODOLOGICAL DEBATE ON THE ECONOMIC AGENT FROM J. S. MILL TO V. PARETO

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This paper proposes a genealogy of the concept of homo æconomicus as it emerged from the methodological debate on the economic agent of political economy. If John Stuart Mill gave birth to the economic man in his 1836 essay “On the Definition of Political Economy,” he certainly did not baptize him. The expression was introduced by Francis A. Walker after Mill passed away in the 1870s. Economic man acquired its Latin name of homo æconomicus under the pen of French Catholic economist Claudio Jannet in 1878. Yet, only at the end of the century did Maffeo Pantaleoni (1889) proudly reclaim homo æconomicus as a building block of pure economics. In reaction to the evolutionary hedonism of Pantaleoni, Vilfredo Pareto then cleansed the concept of homo æconomicus and realized the Millian project of an abstract science based on an economic agent.

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I. INTRODUCTION

References to *homo æconomicus* are ubiquitous in economics. For some, he is a defining icon of the science since the eighteenth century. Thorstein Veblen (1899), for one, traced the origin of the economic man¹ to Adam Smith's *Wealth of Nations*. The Enlightenment certainly provided an important background to all nineteenth-century discussions of human nature. The search for a universalistic conception of human beings was a central concern of David Hume, Jean-Jacques Rousseau, Adam Smith, Jeremy Bentham, and Immanuel Kant, among others.

Recent historiography identifies John Stuart Mill as the "creator" of the economic man (Blaug 1992, p. 55; Persky 1995) and even of the *homo æconomicus* (Morgan 2006). Joseph Persky (1995) advances that the expression "*homo æconomicus*" was first used by the Italian economist Vilfredo Pareto in 1906, but Edward O'Boyle (2009) found that it was used before by his Italian colleague Maffeo Pantaleoni in 1889. We may never be able to trace with absolute certainty the first usage of the expression "*homo æconomicus*." Already in 1891, Pareto asked Pantaleoni, "Who was the first one to consider the *homo æconomicus*?" (Pareto 1960, p. 97). Alas, Pantaleoni never responded to Pareto, or his response was destroyed.

In this paper, we provide a genealogy of the *homo æconomicus*. We argue that Mill can be attributed the paternity of the economic man because he provided the first extended discussion of the method of political economy centered on specific motivations of human agents. As John Neville Keynes (1891, p. 10) remarked, Adam Smith was not particularly concerned with the "right method of economic inquiry." If Mill gave birth to the economic man, he did not baptize him. Indeed, he never used the expression "economic man" himself.²

This paper reconstructs the methodological debate on the economic agent from J. S. Mill to Vilfredo Pareto. With the exception of Claudio Jannet, a forgotten French economist who first used the expression "*homo æconomicus*," we focus on economists who had a significant impact on the discipline in the nineteenth century. The authors we select form a coherent corpus, as the later ones explicitly refer to their forefathers. Although the twin expressions of "economic man" and "*homo æconomicus*" might have been coined independently, both referred to the methodological views enunciated by Mill. The expressions became synonymous with the Latin variant being at first more common in Italian and in French, whereas "economic man" was used by British and American economists. By providing extensive quotations, our conceptual genealogy aims at disentangling the features of the economic man that could be attributed to Mill from those that have been developed by the next generation of economists. Moreover, by situating the *homo æconomicus* within the nineteenth-century methodological debate in

¹ Throughout the paper, we will refer to "economic man" rather than the gender-neutral "economic human being" because it is the historical term used by the economists we study. It reflects the use of the term "man" as a neutral gender but also the androcentric bias of many strands of economics. For elements of a feminist critique of the economic man, see Nelson (1993).

² Zouboulakis (1993, p. 113) argues that making Mill the father of the *homo æconomicus* puts too much stress on an absolutist reading of Mill's [1836] 2006 essay. Yet, the fact that generations of economists associated the economic man with Mill is of historical interest.

which he was born, our genealogy suggests how some contemporary critics of the *homo æconomicus* miss their target (see, for instance, Thaler 2016).

An economic theory inspired by Mill's programmatic vision of the 1830s saw the light of day only in the 1890s. Mill enunciated methodological principles that broke away from classical economists, but he did not follow them strictly in his own political economy. In the middle decades of the century, economists commented on Mill's programmatic vision of the science by painting the economic man under varying shades of color. In every case, the critical light under which they portrayed the economic man reflected their view of what was the appropriate method for the economic science.

Toward the end of the century, neoclassical economists like Francis Y. Edgeworth and Pantaleoni reclaimed the economic man to make it a positive figure of the science. Under the influence of Herbert Spencer, Pantaleoni wanted to demonstrate the realism of the *homo æconomicus* by arguing that the maximization of utility assumed in pure economics coincided with what he thought was the principal motive of real individuals, namely self-preservation. Pareto disagreed. Scientific economics could be based on an abstract subject only if it abandoned any reference to the motives of actions. For Pareto, a movement of gradual adaptation of ideas to the empirical reality characterized both the behavior of *homo æconomicus* and the experimental method of the pure economist. Pareto's refinement of the concept of *homo æconomicus* was also intended as a response to the criticisms addressed to Mill's project of an abstract science based on an economic subject. Reasoning at the margin did not radically change the conception of the economic man, but neoclassical economists were the first to make him into the ordinary hero of economic analysis.

II. FORGING THE CONCEPT: A QUESTION OF METHOD

John Stuart Mill and the Pursuit of Wealth in the 1836 Essay

John Stuart Mill was in his twenties when he drafted the essay that became the reference text on the methodology of economics for decades. It was probably intended as a rejoinder of the a priori method used by his Radical father, James Mill, against the attack of the Whig historian Thomas Babington Macaulay (Whitaker 1975; Cook 2009, p. 24). Macaulay (1829) did not think the formal a priori method used by utilitarians like James Mill could produce any meaningful result in the science of government. In his autobiography, John Stuart Mill confessed he was not happy with how his father addressed the "famous attack" of Macaulay. In his opinion, his father should have argued: "I was not writing a scientific treatise on politics. I was writing an article for parliamentary reform" (J. S. Mill [1873] 2006, p. 165). Over time, Mill concluded that both Macaulay and his father were mistaken (J. S. Mill [1873] 2006, p. 165).

In his essay "On the Definition of Political Economy; and on the Method of Investigation Proper to It," first published in the *London and Westminster Review* in 1836, Mill argued that one should not confuse the "essentially distinct, though closely connected, ideas of *science* and *art*" (J. S. Mill [1836] 2006, p. 312). In this, Mill was repeating the first sentence of Bentham's "Manual of Political Economy" ([1800] 1843), a text he had read and annotated with his father a few years earlier (Guidi 2010). However, Bentham was concerned with the art of government, not with pure science.

Bentham formulated a utilitarian political philosophy to reform the law. In an essay of 1863, Mill would engage with the utilitarian art of morals and legislation (on which, see Persky 2016), but he did not make utility a central concept of the definition or the method of political economy. For the young Mill, political economy was “the science which treats of the production and distribution of wealth, so far as they depend upon the laws of human nature” ([1836] 2006, p. 318). Mill borrowed Jean-Baptiste Say’s definition of political economy while removing the centrality of consumption.³ Moreover, rather than focusing on commodities, Mill positioned man, with his “mental nature,” as the agent of political economy ([1836] 2006, 319). To base a science of political economy on psychological laws was a radically new idea.

A passage of the essay will be the reference point for discussion on the method of economics for seventy years:

It does not treat of the whole of man’s nature as modified by the social state, nor of the whole conduct of man in society. It is concerned with him solely as a being who desires to possess wealth, and who is capable of judging of the comparative efficacy of means for obtaining that end. It predicts only such of the phenomena of the social state as take place in consequence of the pursuit of wealth. It makes entire abstraction of every other human passion or motive; except those which may be regarded as perpetually antagonising principles to the desire of wealth, namely, aversion to labour, and desire of the present enjoyment of costly indulgences. ... Political Economy considers mankind as occupied solely in acquiring and consuming wealth; and aims at showing what is the course of action into which mankind, living in a state of society, would be impelled, if that motive, except in the degree in which it is checked by the two perpetual counter-motives above adverted to, were absolute ruler of all their actions. ... The science then proceeds to investigate the laws which govern these several operations, under the supposition that man is a being who is determined, by the necessity of his nature, to prefer a greater portion of wealth to a smaller in all cases, without any other exception than that constituted by the two counter-motives already specified. Not that any political economist was ever so absurd as to suppose that mankind are really thus constituted, but because this is the mode in which science must necessarily proceed. ([1836] 2006, pp. 321–322)

The central claim advanced by Mill in the previous quote was that political economy studied an abstract conception of man in the pursuit of wealth. Before John Stuart Mill, other economists had argued that wealth was the subject of political economy. The starting point of James Mill’s essay “Government” was to assume that “the actions of men are governed by their wills, and their wills by their desires: That their desires are directed to pleasure and relief from pain as *ends*, and to wealth and power as the principal means” (1820). Then, in his *Introductory Lecture on Political Economy* delivered at Oxford University in 1826, Nassau Senior argued that the theoretical branch of political economy rested on a few self-evident propositions such as “every person is desirous to obtain, with as little sacrifice as possible, as much as possible of the articles of wealth” (Senior 1827, p. 35).

³ “L’*économie* [montre] comment se forment, se distribuent et se consomment les richesses” (Say 1803, p. i). See also Senior (1827, p. 7).

Contrary to what his father argued for the science of government, for John Stuart Mill, in political economy there was no need to go back to the primitive desire for pleasure and the aversion of pain. The starting assumption was the pursuit of wealth, and individuals were characterized by their ability to judge “the comparative efficacy of means for obtaining *that end*” (Mill [1836] 2006, p. 321; our emphasis). Whereas Senior took the desire for wealth as universal and evident from scrutinizing one’s consciousness, for the young Mill it was only a simplifying assumption in an attempt to build a science.

Political economy studied wealth, and its main protagonist was man as a wealth-seeking creature. Wealth required effort and it could be accumulated. Yet, John Stuart Mill ([1836] 2006, p. 314) did not wish to restrict the definition of wealth to material objects: wealth could be any agreeable object of desire limited in quantity.⁴

In order to understand how mankind would act in real economic settings where a large set of motives are at work, the student of political economy must first understand mankind’s behavior under the influence of one motive at a time. In the 1830s, Mill stated that political economy was an abstract science that followed the a priori method. Like geometry, it reasoned deductively from an assumed hypothesis:

Geometry presupposes an arbitrary definition of a line, ‘that which has length but not breadth.’ Just in the same manner does Political Economy presuppose an arbitrary definition of man, as a being who invariably does that by which he may obtain the greatest amount of necessaries, conveniences, and luxuries, with the smallest quantity of labour and physical self-denial. ([1836] 2006, p. 326).

In both cases, the conclusions of the scientist are true only in the abstract ([1836] 2006, p. 326). The domain of political economy is restricted to the parts of human life for which wealth, broadly conceived, is the object. Yet, even within this realm, when the laws of political economy are applied in a particular case, it is “necessary to take into account all the individual circumstances of that case” ([1836] 2006, p. 330). When the “laws of the mind” deduced in political economy do not correspond to the observed phenomena, it does not mean that they are false, or that they admit exceptions, but rather that a countervailing tendency was at play in the particular case under study. Likewise, in mechanics, friction is not an exception to the law of gravity but a disturbing cause that counteracts the tendency of heavy bodies to fall ([1836] 2006, p. 337).

A Broader Scope in Mill’s Logic and PPE

Following Auguste Comte, Mill recast political economy as a branch of the social science, also known as sociology. Comte did not think much of the scientific pretenses of political economists. In the last volume of his *Cours de philosophie positive*, he argued that all the components of social phenomena were mutually interconnected and could not be studied separately (Comte 1839, p. 272). Despite his great admiration for Comte’s intellectual enterprise, Mill reaffirmed in his *System of Logic* ([1843] 2006) the separateness of political economy based on the different set of causes that could be isolated

⁴ Following J-B Say, in his *Principles*, Mill ([1848a] 2006, p. 45) will claim that we are ultimately interested in the “utilities” produced by labor, not the material objects that can be accumulated. To Schabas (2005, p. 127), the plasticity of Mill’s conception of wealth is further evidence that he held political economy to be a mental science. See also Schabas (2015, p. 105).

from the other causes at work in complex social phenomena. Moreover, he argued that social science followed the “concrete deductive method.” Also known as the “direct deductive method,” it was applicable to complex phenomena, like those studied by astronomy, that could not be understood merely by direct observation (Mill [1843] 2006, pp. 454, 462). It consisted of three steps: induction, ratiocination, and verification. The scientist would start from laws of nature, obtained through induction, then deduce tendency laws, before “collating the conclusion of the ratiocination with the concrete phenomena themselves” ([1843] 2006, p. 896). In the distinct branch of political economy, however, Mill considered that direct verification of the theory was not possible because of the absence of empirical laws generalized from specific cases and the impossibility of controlled experiments ([1843] 2006, p. 908).⁵

Despite this reframing of the method of political economy within a broader philosophy of science, Mill still quoted at length the same passage from his 1836 essay. Political economy dealt with phenomena “in which the immediately determining causes are principally those which act through the desire of wealth, in which the psychological law mainly concerned is the familiar one, that a greater gain is preferred to a smaller” (Mill [1843] 2006, p. 901). This desire for a greater gain operated both in the sphere of production and in the sphere of distribution.

However, Mill had already remarked in 1836 that political economy studied “man’s nature as modified by the social state” (Mill [1836] 2006, p. 321). This qualification of the domain of political economy grew into an important line of defense of mainstream economists against their critics (more below). In his *Logic*, Mill remarked that even if the method was universal, “the conclusions of the science, being all adapted to a society thus constituted, require to be revised whenever they are applied to any other” ([1843] 2006, p. 903). This also meant that his deductive method for political economy was better adapted to a stable state of society.

When he came to write his *Principles*, Mill wanted to write a broad treatise like Smith’s *Wealth of Nations*. As the title stated, the *Principles of Political Economy with Some of Their Applications to Social Philosophy* ([1848] 2006) “was not a book merely of abstract science, but also of application, and treated Political Economy not as a thing by itself, but as a fragment of a greater whole; a branch of Social Philosophy, so interlinked with all the other branches, that its conclusions, even in its own peculiar province, are only true conditionally” (Mill [1873] 2006, p. 242). Most commentators of Mill, starting from Nassau Senior (1848, p. 304), noted the discrepancy between the programmatic essay with its narrow conception of the individual and strict method, and the broad scope of the *Principles*.⁶

In the middle decades of the nineteenth century, political economy appeared as a mature and successful science in the eyes of the British public. The prosperity that

⁵ The only empirical test available in political economy would be indirect verification. That is, a theory should be able to “predict the present and the past” (Mill [1843] 2006, p. 910). Mill never claimed that economists should reject a theory on the basis of an empirical test (Hands 2001, p. 23). The role of verification in Mill’s methodology of economics is subject to contrasting interpretations. See Hollander (1985); Hollander and Peart (1999, 2000); and Hirsch (2000).

⁶ See Leslie (1888, p. 57); Sidgwick (1883, p. 33); Walker (1883, p. 16); and Neville Keynes (1891, pp. 17–20). See also Winch (2009, p. 29). For a detailed reconstruction of Mill’s motivations in writing the *Principles*, see De Marchi (1974).

followed the repeal of the Corn Laws boosted the economists' confidence in their outlook. Mill ([1848b] 2006, p. 456) had famously remarked in his *Principles* that "happily, there is nothing in the laws of Value which remains for the present or any future writer to clear up." John Elliot Cairnes restated the Millian methodological creed in his *Character and Logic Method of Political Economy* in 1857.

The Mental Calculus

Mill had tried to salvage the core propositions of Ricardian theory and policy from its criticisms by recasting them in a rigorous scientific foundation, but in the process, he broke away from classical political economy by putting the individual at the center of a methodological program. When we study the whole range of his writing, we can see in Mill a commitment to individual agency and an understanding of how societies can progress by institutional design (Schabas 2005, p. 126; Fontana 1986). In the province of political economy narrowly conceived, Mill's focus of the human "mental nature" paved the way for the psychological turn in the second half of the century (Schabas 2005, p. 133).

William Stanley Jevons combined Bentham's political calculus of pleasure and pain with Mill's search for economic laws based on individual psychology. In the first sketch of his "Mathematical Theory of Political Economy," presented in 1862, Jevons argued, "A true theory of economy can only be attained by going back to the great springs of human action—the feelings of pleasure and pain" (p. 158). Yet, echoing Mill's methodological prescriptions, Jevons also remarked that "economy does not treat of all human motives. There are motives nearly always present with us, arising from conscience, compassion, or from some moral or religious source, which economy cannot and does not pretend to treat. These will remain to us as outstanding and disturbing forces; they must be treated, if at all, by other appropriate branches of knowledge" (Jevons 1866, p. 282).

Within a few years, Jevons had produced a theory that rid economics of "the cost of production doctrine of value, the natural rate of wages, and other misleading or false Ricardian doctrines" (Jevons [1879] 2013, p. ixvii). With respect to preceding English theories of political economy, it's fair to say that—together with Carl Menger and Léon Walras—Jevons instigated a "Marginal Revolution" (Hutchison 1978, p. 66ff.). He broke new ground particularly on the use of mathematics (Schabas 1990). Nonetheless, even if he reasoned differently and arrived at different results, Jevons's individualistic starting point of economic inquiry was in continuity with Mill (De Marchi 1972).

However, Mill's wealth-seeking man was a simplifying fiction, whereas Jevons's 1871 "mechanics of human interest" applied indiscriminately to "persons" even though he restricted his investigation to a limited domain of wants.⁷ More importantly, Mill relied only on a mechanistic analogy to describe the scientific method, whereas Jevons

⁷ Jevons claimed that the "calculus of utility aims at supplying the ordinary wants of men at the least cost of labour" (Jevons 1871, p. 27). Echoing Mill, he remarked in the introduction to the *Theory* that "each labourer, in the absence of other motives, is supposed to devote his energy to the accumulation of wealth" (Jevons 1871, p. 27). While it is reasonable to assume that Jevons did not restrict wealth to material goods constrained by natural scarcity in the preceding quote (see Schabas 2005, pp. 16, 124), the concept of wealth no longer occupied in his *Theory* the central place it held in classical political economy up to Mill.

saw mechanics in the head of individuals. Jevon's early interest in the working of abacuses led him to conceptualize the human psyche as operating like a counting machine and to describe human behavior with the same logic (Maas 1999). Although Jevons acknowledged that a person's mind is "inscrutable" to another person, the natural laws of the mind, such as "that every person will choose the greater apparent good," would be observed at the aggregate level of a nation (Jevons 1871, pp. 21–24). So, even though he did not use the expression "economic man" himself, Jevons prepared the way for the neoclassical reappropriation of the concept by Edgeworth, Pantaleoni, and Pareto in the last two decades of the century (see section IV below). In the meantime, the abstract and deductive approach advocated by Mill and Jevons for political economy had been the subject of various criticisms.

III. CRITICIZING THE CONCEPT: THE EMERGENCE OF THE EXPRESSION

Baptizing the Economic Man

The expressions "economic man" and "*homo æconomicus*" emerged in the 1870s in critical discussions of English political economy. The first English occurrence of the expression of "economic man" appeared in a review of Cairnes's *Some Leading Principles of Political Economy* published in 1874 by the American economist Francis Amasa Walker. He used the opportunity of his review to quote and mildly criticize the famous passage from Mill's [1836] 2006 essay: "Mr. Mill does not in his later writings abide by his own definition of the economic man, but generally assumes other 'motives and passions' than those with which alone, he says, political economy is concerned" (Walker 1874, p. 320). Walker did not claim the paternity of a new concept and assumed that the readers of *The Nation* would understand his personification of Mill's assumptions regarding human nature as studied in political economy. Two years later, Walker used again the expression "economic" man in *The Wages Question*.

In 1872, a group of German social reformers had created an association to promote scientific research and policies to address the social question (Hagemann 2001). In a speech given at one annual meeting of the Verein für Socialpolitik, the secretary of the association, Adolf Held, directly attacked the "old" English political economy. In the words of the Catholic professor: "The new school demands a complete abandonment of the endeavor to set up natural laws of universal application, ... It demands, above all, the abandonment of the premise that man in his economic action is influenced only by egoism. ... It demands that the economic man [*Wirtschaftende Mensch*] shall be considered a member of an organized society (Held 1877, p. 164; also cited by von Philippovich 1891, p. 224). Held's plea for a policy-oriented social and historical political economy directly attacked what he perceived to be the central tenets of the classical methodology defended by Mill: the universalism of economic laws, the deductive method, and the selfish economic man isolated from institutions. It is worth noting that Mill never claimed that the wealth-seeking man assumed in political economy was selfish. By characterizing the economic man as selfish, critics of political economy

amalgamated Mill and his followers with the loathed “selfish system” attributed to Thomas Hobbes and Bernard Mandeville.⁸

In Victorian England, Thomas Carlyle and John Ruskin attacked political economy, but they did not seem to refer precisely to the economic man. Finer methodological criticisms were formulated by the Irish economists Cliffe Leslie and later by John Ingram, both of them influenced by Auguste Comte, Wilhelm Roscher, and Henry Maine (Hutchison 1978, p. 78; Cook and Tribe 2016, p. 305). In an essay first published in 1875, Leslie argued that economists throughout Europe could be roughly divided according to the methodological conception they held, either English or German (Leslie 1888, p. 83). Ingram (1878) brought this methodological analysis further. He acknowledged that Mill and Cairnes had refined the methodology of orthodox political economy. Whereas David Ricardo assumed he was “dealing with human beings as they actually exist,” Mill and Cairnes recognized that the “economic man” was based on “unreal assumptions” (Ingram 1885, p. 381). For Ingram, the future belonged to the German historical approach and the sociology of Comte. The “radical vice” of unscientific orthodox economics lay “in the too individual and subjective aspect under which it has been treated” (Ingram 1885, p. 400). The individualistic perspective had to be subordinated to an organic vision of society. The fact that some English-writing authors such as Leslie and Ingram, and later Arnold Toynbee and William Cunningham, defended the historical method against the deductive abstractness of Ricardo, Mill, and their followers led some to speak of an “English Methodenstreit” (Koot 1987).

In his introductory lecture at University College London in 1876, Jevons observed that political economy was in an “almost chaotic” state. He agreed with Leslie that history was relevant, but he posited it belonged to the “concrete part” of the science. Applying Spencer’s evolutionary idea to the science itself, Jevons argued for the “differentiation” of the branches of political economy (Jevons 1876, pp. 623–624). Properly reformed, the “abstract” branch of mathematical “economics” could follow a deductive method (Jevons [1879] 2013, p. xxxvii). In his 1879 review of the second edition of Jevon’s *Theory*, Leslie responded to Jevons that historical analysis should be at the heart of political economy, not relegated to another sociological branch (Leslie 1888, p. 66). While Leslie was sympathetic to Jevons’s attack on Ricardian economics, and particularly on Cairnes’s doctrinal synthesis of it, he nonetheless criticized Jevons for his overreliance on the deductive method (Leslie 1888, p. 197).

The Nebulous Beginning of Homo Æconomicus

If the economic man acquired its English name in the context of the mild criticism that Walker addressed to Mill in 1874, the Latin variant of *homo æconomicus* first appeared in the harsher criticism made by French Catholic economist Claudio Jannet in 1878. Born in 1844, Jannet received a doctorate in law from the University of Aix in 1867 and later came under the influence of the French sociologist Frédéric Le Play. Jannet became the first professor of political economy at the Université Catholique de Paris in 1877. While he is a completely forgotten figure of the history of economic thought, in the eponymous entry of the *Dictionary of Political Economy*, it was said that “Jannet was

⁸ On the German historical school methodological criticism of English political economy, see Gide and Rist (1909, p. 455ff.).

probably the most scholarly and certainly one of the best and most widely informed of the French economists of his generation” (Castelot 1896, p. 472; 1894). There is no evidence that Jannet knew about Walker’s work in the 1870s, and thus it is possible he had not encountered the expression “economic man,” but he was certainly very familiar with Mill’s work and the methodological debates in political economy.

Jannet defended a peculiar form of Social Catholicism.⁹ He supported freedom of contract and free trade, and he was grateful to liberal economists for having combated socialism. Even if he was sympathetic to the historical inclination of Wilhelm Roscher, he vigorously disapproved of the interventionist policies advocated by the Socialists of the Chair, such as Adolf Held and Adolph Wagner, on the basis of their “fake science.” History was not a tool for social transformation, but it could reveal the natural organization of societies. For Jannet, the laws of political economy were universal because they were given by God.

With Comte, Jannet denied the separateness of political economy. Social science was one and had to study the whole of mankind whose goal is happiness. English political economy took humanity out of the equation: “The influence of national life, that of the family, the connection of men to places, custom, the action of the idea of right [*droit*] and the sentiments of social benevolence are eliminated” (Jannet 1878, p. 1067). Writing a long survey of the state of the social science in the Catholic periodical *Le Correspondant*, Jannet dismissed the caricatural conceptions of man given by the “old school,” which tried to reduce man either to “algebraic equations” or to a statistical “*homme moyen*”—a probable reference to the work of Adolf Quetelet. Jannet asserted: “In reality, this sort of *homo economicus* is like Rousseau’s *natural man*: it never existed!” (Jannet 1878, p. 1067).¹⁰ For Jannet, the natural goodness of man assumed by Rousseau was a false dogma of the French Revolution. At the opposite end, neither could the individualistic and aggressive nature of individuals postulated by Hobbes, “*Homo Homini Lupus*,” serve as a foundation for a true science compatible with Christian teaching (Jannet et al. 1890, p. 30). Rather, the necessary starting point of social science should be the “constant action of the original sin,” as Frédéric Le Play had observed in his studies (Jannet 1878, p. 1074). This explained the necessity of domestic authority, of religion to fight vice, and of the duty of wealth towards members of the lower classes. Thus, “the subject of economic observation should be the family and not the isolated individual” (Jannet 1878, p. 1074).¹¹

⁹ On Social Catholicism at the time, see Solari (2010). Jannet was well connected in academic Catholic circles of his time. In 1880 he was awarded a doctorate *honoris causa* from the Université Laval in Québec, and in 1882 another one from the Université Catholique de Louvain (where the Catholic economist Charles Perrin had held the chair of political economy for many years). Jannet was admitted at the Société d’économie politique in 1885. He held the chair of political economy at the Institut Catholique de Paris until his death in 1894. See Savard (1990).

¹⁰ “En réalité, il en est de cette sorte d’*homo economicus* comme de l’*homme de la nature* de Rousseau : il n’a jamais existé!”

¹¹ Jannet’s criticism of the *homo economicus* echoed the many voices who compared the economic agent to the fictional character of Daniel Defoe’s novel *Robinson Crusoe*. Already in 1831, Richard Whately argued that an isolated man like Robinson could not be the subject of political economy for it was (or should be) a “science of exchanges” (1831, pp. 6–7). In the introduction to *A Contribution to the Critique of Political Economy* ([1857] 1970, p. 188), Karl Marx criticized the “Robinsonades” of Rousseau, Smith, and Ricardo, who postulated isolated individuals by nature independent as a starting point for history and thus for political economy. In the first chapter of *Capital* ([1867] 1990), Marx came back to this theme to make the case for the

In his *Groundwork of Economics* published in 1883, Charles S. Devas, a lecturer in political economy in a Catholic college near London, probably made the only direct reference to Jannet's conceptual innovation. Referring to the above passage in Jannet's article and paraphrasing it, but without attributing to him the paternity of the expression, Devas denounced the English economists of the first half of the nineteenth century who "dressed up a ridiculous *homo œconomicus*, just as in political science Rousseau had dressed up a ridiculous *homme de la nature*" (Devas 1883, p. 43). For Devas, these excesses had led to an agnostic *historical* reaction that denied the centrality of "good will" and "revelation" in guiding men's moral behavior in society.

Jannet and Devas addressed a methodological criticism to English political economy. Like some German economists with similar conservative political views, they were probably as upset as those economists, if not more, by the liberal assumptions of English political economy.

Conciliatory Approaches

In the middle of the decade, the business journalist Walter Bagehot wrote the "Postulates of English Political Economy." Bagehot did not use the expression "economic man." He defended the deductive and abstract method of political economy as appropriate to analyze "a society of grown-up competitive commerce" ([1876] 1880, p. 17). Mill would probably have agreed. After all, he had criticized Bentham for offering a general social philosophy that was in fact applicable to "organizing and regulating the merely business part of the social arrangements" (Mill [1838] 2006, p. 99).¹² For Bagehot, only in England could one talk of non-wealth-seeking motivations in terms of "frictions" (Bagehot [1876] 1880, p. 17). It was "absurd" to try to apply the conclusions of the abstract political economy to less developed nations (Bagehot 1880, p. 80). Since commercial activities had changed the nature of men, Bagehot did not see a contradiction between the abstract and the deductive methods (Bagehot [1876] 1880, p. 15). The "first men," just like the "present savage men," "did not conform to the standard of economical man; the being of reality was not the being of the hypothesis" (Bagehot 1880, p. 83). In particular, they could not appreciate the commodities called "wealth": "The desire, so strong in civilised man, for wealth, has been excited in him by the experience of ages, and has been transmitted to him by inheritance" (Bagehot [1876] 1880, p. 15). Just as political economy takes a "one-sided view of man," it also "takes an abstract one-sided view of wealth" (Bagehot 1880, p. 81). Political economy takes human wants as given and does not judge of the goodness of articles of wealth for human life, whether it is a beer or a book of religion. And yet, this conceptualization of wealth, inseparable from the definition of political economy and its method, was not relevant to study non-

social nature of labor. Neoclassical economists claimed back the character of Robinson in the narratives they told about their models. Robinson embodied the idea of production in isolation and eventually bilateral exchange after Edgeworth introduced Friday. Contrary to the *homo œconomicus*, Robinson is not invoked in discussions about human motivations and the definition of economics. On Robinson, see White (2008), Söllner (2016), and Watson (2017).

¹² Mill certainly believed that institutions could and should change, but his quest for natural laws might have made him less convinced by the full set of claims made by Darwin in the *Origins of Species*. Hull (2000, p. 58) pointed to a theoretical conflict between Mill's belief in natural laws, such as the mental law defining the economic man, and the claim that species evolve, and thus that laws of nature themselves are not immutable.

commercial societies (Bagehot 1880, p. 80). Historical methods were thus useful to understand the evolution of societies toward the commercial stage of economic men. After Charles Darwin and Herbert Spencer, many economists like Bagehot, who defended the abstract method of political economy centered on the economic man, also felt the need to relativize the context of its applicability.

Even if very few thinkers were directly influenced and bought into the whole set of Darwin's ideas, most held to a general view that species and societies evolve through time (Hull 2000, p. 48). Thus, what separated the early nineteenth-century representation of man from its late-century variants was the role of history and the theory of evolution that had to be accounted for in the explanation of social phenomena (see Claeys 2019).

While the debate between induction and deduction certainly spilled over countless pages throughout the nineteenth century, attempts to establish an uncontested methodological canon led some economists to compromise. When academic economists tried to solidify a corpus of principles of economics in the 1880s, they attempted to respond to these criticisms while presenting a unified vision of the science. Commenting again on the famous passage from Mill, Walker—who, in the meantime, had become president of the American Statistical Association—remarked in his treatise on *Political Economy* that “we have here all the elements of the economic man” (Walker 1883, p. 16). Using a bodily metaphor, Walker argued that historical and social knowledge could be added on top of the abstract construction: “Such a scheme should constitute the skeleton of all economical reasoning; but upon this ghastly framework should be imposed the flesh and blood of an actual, vital Political Economy, which takes account of men and societies as they are, with all their sympathies, apathies, and antipathies; with every organ developed, as in life” (Walker 1883, p. 18).

From his chair of moral philosophy at Cambridge, Henry Sidgwick reflected upon the evolution of political economy over the nineteenth century. Sidgwick wrote his *Principles of Political Economy* to restate the core of the science while acknowledging important points recently made by critics (Sidgwick 1883, p. 7). He used the concept of “economic man” a few times in the *Principles*, defining it as the characteristic of men “always seeking to obtain for the commodity that they exchange the largest real return that they know to be obtainable taking all kinds of gain and loss into account” (Sidgwick 1883, p. 391). Sidgwick explained the discrepancy between this behavior and what is observed in society at large by the effect of “custom,” or what we would today call “social norms.” It is very likely that Sidgwick borrowed the expression “economic man” from Walker since he quoted his *Wages Question* (1876) many times.

The other Cambridge professor, Alfred Marshall, also positioned himself as a conciliatory figure in the methodological debate. In the 1880s, Alfred Marshall referred explicitly to Walker's “admirable *Political Economy*” as well as to Sidgwick's *Principles of Political Economy*. Highly influenced by evolutionism and German philosophy of history, Marshall adopted an ecumenical approach: “induction and deduction go hand in hand” (1890, ch. v). Comte and Roscher were right when they claimed that other methods were useful, but they were wrong when they denied the usefulness of deductions, since facts alone were silent (Marshall 1885, p. 39; 1890, p. 74). On the other side, contrary to what was often claimed, Ricardo and his followers were not establishing universal truths but only developing “machinery to aid us in reasoning,” an “engine for the discovery of concrete truth” (Marshall 1885, p. 22).

Marshall defended John Stuart Mill, at the cost of turning the economic man on his head.¹³ He thought that Mill's passage on the economic man from his 1836 essay had been misunderstood: "It is an English habit to leave much to be supplied by the common sense of the reader" (Marshall 1890, p. 80n1). Marshall went as far as arguing that when economists had assumed a selfish economic man, "they did not express their meaning exactly" (1885, p. 27; 1890, p. 78). In his view, the economic man is not selfish, since wealth is primarily pursued for the benefit of the family: "he is generally hard at work saving capital chiefly for the benefit of others" (1885, p. 28). Marshall argued that economists dealt with individuals of flesh and blood. In the end, the wealth-seeking man was only a convenient assumption because it led to actions that were measurable in monetary terms. It is no surprise then that Marshall defined economics as "the study of man's action in the ordinary business of life" (1890, p. 1). His conception of the economic man matched his definition of economics.

Referring to all the economists we have discussed so far was John Neville Keynes's *The Scope and Method of Political Economy* (1891), a 350-page synthesis of the methodological debates on political economy in the nineteenth century.¹⁴ Like Marshall, Neville Keynes adopted a conciliatory tone (Blaug 1992, p. 52). Neville Keynes supported the intimate connection between wealth and economics conceived as an abstract science, but he argued that the desire for wealth was only a shorthand for the desire to acquire "purchasing power" to satisfy one's various wants (Blaug 1992, p. 117). In that perspective, economic man was conceived as acting toward his "own material advantage and the advantage of those immediately dependent upon [him]" (Blaug 1992, p. 115). Gone was the view of economic man as a greedy creature. In Neville Keynes's view, the economic man was a real and enlightened self-interested man. He might wish to increase his fortune to care for his children or to give to charitable causes. Thus, from his utilitarian perspective, both egoism and altruism were compatible with a wealth-seeking vision of human beings.

IV. THE TURNING POINT: A VINDICATION OF THE EXPRESSION

Positive Views on Economic Man and Homo Œconomicus

By the 1880s, Jevonian mathematical economics had taken a firm hold in Britain (Schabas 1990, ch. 6). The next generation of neoclassical economists proudly reclaimed the economic man as the ordinary hero of their theories. Jevons's conception of man was referred to as "a pleasure machine" by his devoted disciple, Edgeworth. In *Mathematical Psychics* (1881, p. 55n1), Edgeworth used the expression only once in a footnote referring to Mill's *Logic* and to Walker's *Wages*.¹⁵

¹³ William Cunningham also defended the economic man while at the same time agreeing with "the Comtist criticism of economic science": "Thus the 'economic man' is not a constant type, but he is always relative to his social environment, both as concerns his habits and his ambitions" ([1889] 1962, p. 104).

¹⁴ Crespo (2020) provides a reconstruction of key methodological positions on the economic method leading up to Neville Keynes's synthesis, but he goes too far in projecting Neville Keynes's tripartition of science, normative, and art on John Stuart Mill.

¹⁵ See also Edgeworth (1884).

Edgeworth later used the expression “economic man” to capture the essence of economics in some of the 115 entries he wrote for Robert H. I. Palgrave’s *Dictionary of Political Economy* (see Barbé 2010, p. 173). The *Dictionary* also contained an entry on “economic man” written by the Cambridge logician and lecturer in psychology and moral sciences William Ernest Johnson. He defined the economic man as “a more or less imaginary being postulated for theoretical purposes by abstract political economy” and moved by his “material interests” (Johnson 1894, p. 676). In the entries “Functions,” “Gossen,” “Margin,” “Maximum Satisfaction,” and “Total Utility,” Edgeworth painted a portrait of the economic man more in line with the new mathematical economics. For instance, in the entry “Functions,” Edgeworth wrote: “It has been well said that every theory in economics may be regarded as the solution of a problem in the calculus of maxima and minima: to obtain the greatest satisfaction with the least effort and sacrifice being the aim of the economic man. The language of that calculus is the mother tongue of abstract economics” (1896). For Edgeworth, the “advantage” of the economic man is represented by a “function of several variables.” He strives to attain “maximum satisfaction,” to maximize his “net total utility” (1896; 1899). Thus, at the turn of the century, the mathematical imagination of Jevons and Edgeworth had created an economic man very close to the modern microeconomics textbook account of the universal utility maximizing agent. The economic man was no longer merely attracted to wealth as Mill had postulated, and neither was he identified with the typical English businessman as Bagehot had argued.

In *Principii di economia pura* (1889), Maffeo Pantaleoni adopted the Latin expression of *homo æconomicus* in a constructive way.¹⁶ For the first time, the expression was not used merely for criticizing English political economy but to explicitly characterize the subject of pure economics, just as Edgeworth would do a few years later in Palgrave’s *Dictionary*.¹⁷

Pantaleoni devoted the first chapter of his *Principii* to the subject matter of the economic science. He described the specific characteristic of the *homo æconomicus* in terms of the “hedonic hypothesis,” that is, the desire “to obtain a given result with the smallest comparative means; or, conversely, to obtain any maximum result with any given means” (1889; 1898, p. 5).¹⁸ In his view, it was possible to obtain true economic deductions from the hedonistic hypothesis, and thus to offer accurate practical prescriptions, since the hedonistic hypothesis was realistic. Pantaleoni found inspiration for his realism in Herbert Spencer’s reading of Darwin’s principle of natural selection, an idea that figured prominently in his thought (Mosca 2015; Sunna and Mosca 2017). In Pantaleoni’s view, the hedonistic hypothesis was realistic because the ends of *homo æconomicus* necessarily coincided with the self-preservation of the individual and the species.

In his demonstration of the reality of *homo æconomicus*, Pantaleoni quoted Spencer’s *Data of Ethics* (1874): “Sentient existence can evolve only on condition that pleasure-giving acts are life-sustaining acts” (1898, p. 15). Pantaleoni argued that

¹⁶ Charles Gide (1890) devoted most of his review of Pantaleoni’s *Principii* to a discussion of the “typical man” whom the author called “*homo æconomicus*.” The book was later translated into English in 1898. From 1890 to 1924, Maffeo Pantaleoni was one of the editors of *Giornale degli Economisti*, which was at the center of the debate between the German and the English school that exploded quite virulently in Italy in the 1870s (Augello and Guidi 2001).

¹⁷ By the time he wrote his Palgrave entries, Edgeworth had read Pantaleoni’s *Principii* (see Edgeworth 1891).

¹⁸ Pantaleoni (1889) inserted himself in a tradition that went back to the law of the minimum of action of Maupertuis. On Pantaleoni’s intellectual sources, see also Bruni (1997).

natural selection worked “through the elimination of individuals for whom life-sustaining acts [were] not productive of pleasure, and in whom acts prejudicial to life occasion no pain” (1898, p. 16). Only those who acted like a *homo æconomicus* could survive. In this sense, *homo æconomicus* represented the empirical reality, if not already in the present, surely in the future. Behavioral discrepancies were destined to be eliminated by natural selection. He classified these discrepancies as “anti-economic” behaviors, like the acts of the anchorite, the preference for a lower remuneration, or the many forms of altruism (1898, p. 19). Yet, there could also be discrepancies between individual egoism and the “tribal egoism,” that is, self-preservation of the species (1898, p. 20). In this case, natural selection would again eliminate the discrepancy, since only species presenting a concordance between individual egoism and tribal egoism could survive.¹⁹

The association of the *homo æconomicus* with the idea of preservation of the species suggests that Pantaleoni could have borrowed this Latin expression from the idea of *Homo sapiens*. Indeed, just before introducing the concept of *homo æconomicus* in his *Principii*, Pantaleoni quoted Patrick Geddes’s *An Analysis of the Principles of Economics* (1885). In this book, Geddes discussed Darwin’s principle of natural selection and used the expression “Homo” for the human species.²⁰ Geddes referred to the works of Walker—who was also himself influenced by Darwin and Spencer (see Hodgson 1992)—and used the expression “economic man,” but never “*homo æconomicus*.” It is plausible that Pantaleoni made the connection. In any case, Pantaleoni read the English expression of “economic man” in Walker, since he quoted his different works multiple times in the *Principii*. It is not clear, though, if Pantaleoni knew of Jannet’s work before writing his *Principii*. He would, at least, learn of Jannet’s *Le capital, la spéculation et la finance au XX^e siècle* in 1892 when Pareto wrote a positive review of it for the *Giornale degli economisti*.

Cleansing the Concept: From Motives to Logic

The refinement of the concept of *homo æconomicus*, so proudly claimed by Pantaleoni, characterized the intellectual path of Vilfredo Pareto. On 4 July 1891, Pareto wrote to Pantaleoni that he had just met Jannet in Paris, a “very cultivated person” whose reasoning, however, seemed to be grounded on wrong “bases” (Pareto 1960, p. 42).²¹ In fact, Pareto met Jannet just after he finished reading Pantaleoni’s *Principii*. Four days later, Pareto wrote to Pantaleoni many critical comments on his book, most of them about the concept of *homo æconomicus* (Pareto 1960, p. 43–49). Like Jannet, who had argued that neither *homo æconomicus* nor Rousseau’s natural man ever existed, Pareto

¹⁹ Tribal egoism is a “more complete, intense and perfect form of egoism” (Pantaleoni 1898, p. 21). In the long run, the tribal “eliminates” the individual egoism (see Bruni 1997, pp. 150–151) but only when the latter “tends exclusively to maximise his happiness, regardless of that of others” (Pantaleoni 1898, p. 20). Pantaleoni underlined that *homo æconomicus* “should first make sure of his own preservation and more perfect development, before he can benefit the species” (Pantaleoni 1898, p. 22; see Sunna and Mosca 2017, pp. 38–39).

²⁰ Closson (1896) showed how after Linnæus the expression “Homo” (Europæus, Alpinus, Contractus, Acrogonus, etc.) was widespread for qualifying human species (see Mosca 2015).

²¹ On the same day, Pareto also wrote to Emilia Peruzzi that he was very heartily received by Jannet in Paris (Pareto 1968, p. 475). Pareto had heard of Jannet through Peruzzi as early as 1889 (Pareto 1968, p. 400).

wrote to Pantaleoni that the hedonistic *homo œconomicus* of political economy did “not exist in nature” (Pareto 1960, p. 47). Although, contrary to Jannet, Pareto did not reject the abstract concept. He wanted to refine it. Pareto focused his criticisms on the method. When pure economics failed to describe reality, rather than invoking “anti-economic” motives of real individuals as Pantaleoni did, the *homo œconomicus* could be revised. This revision would require constant reference to the “*naked experimental facts*,” knowing that the amended hypothesis, even in the best case, would still remain an approximation of reality (Pareto 1960, p. 49). For Pareto, pure economists should abandon any temptation to provide practical prescription based directly on abstract deductions (see Pareto 1960, pp. 45–48).

Pareto outlined in this letter the steps that would characterize his intellectual path in the refinement of the concept of *homo œconomicus*. First, he compared pure economics to rational mechanics, arguing that rational mechanics did not introduce anti-mechanic criteria to explain the elasticity of matter but rather complemented it with a theory of elasticity (Pareto 1960, pp. 46–47). Second, he found problems in the description of the economic motive. If pure economics led to deductions that were not observed, as Pantaleoni admitted, this could be due to a misguided conceptualization of economic motives in terms of utility. For example, contrary to what was assumed in pure economics, real individuals engaging in exchange could hardly calculate final degrees of utility before making their choices (pp. 47–49). They were probably acting “more out of habit than reasoning” (p. 48). This problem was linked to Pareto’s more fundamental criticism about the means–end relationship. Third, he argued that it was very hard to assume that the actions of real individuals would “only follow from their conscious will [*deliberato volere*]” (p. 48). Pure economics was implicitly assuming that real individuals were able to adapt their means to their ends, but this hypothesis had to be made explicit.

Pareto wrote this letter to Pantaleoni while he was finishing his article “*Lasciate fare, lasciate passare*” (1891) for the *Giornale degli Economisti*. In this paper he developed the analogy between pure economics and rational mechanics as he would do in his *Considerations on the Fundamental Principles of Pure Political Economy* ([1892–93] 2007).²² According to Pareto, abstraction was necessary for the scientific analysis of simple and artificially isolated aspects of reality, but before providing practical prescriptions, a synthesis of all these aspects of reality was needed (see Guala 1998; McLure 2001, pp. 21–27). Furthermore, since the phenomenon studied by science was always an ideal phenomenon—which could never coincide identically with reality—it was necessary to compare deductions with experience as often as possible (Pareto [1892–93] 2007, pp. 7–8).²³

²² On the evolution of the concept of *homo œconomicus* in relationship with the mechanical analogy, see Boianovsky and Tarascio (1998) and McLure (2001, pp. 40–66). On some critical points about this analogy, see Donzelli (1997) and Marchionatti and Gambino (1997).

²³ A few years later, but without apparent knowledge of Pareto’s work, Max Weber proposed a comparable abstraction from empirical reality. In economics, Weber argued that ideal types are constructed around a principle of means–end rationality to capture some typical features of social conduct. On Weber’s conceptualization of economic rationality in relation to the *homo œconomicus*, see Demeulenaere ([1996] 2003, p. 179ff.).

First, Pareto tried to clarify the concept of utility by introducing the concept of “ophelimity.” In his *Cours d'économie politique* (1896), he pointed to the difference between the objective utility that parents see in a medicine for their child and the subjective utility felt by the child, who dislikes the medicine. Then, he made a distinction between subjective utility and ophelimity, understood as the capacity of something to satisfy needs or desires. The ascetics see utility in the annihilation of any satisfaction of needs and desires; their subjective utility therefore is not their ophelimity but rather the annihilation of any ophelimity (Pareto 1896, p. 6). Utility was economic, moral, or ethical, when it provided for the social aggregate material well-being, the development of more perfect morals, or ethical development, respectively. Ophelimity was economic, moral, or ethical, when it satisfied needs and desires of the individual of a material, moral, or ethical kind, regardless of whether they were useful (see McLure 2007, pp. 26–27).²⁴ In Pareto's *Cours*, the *homo œconomicus* was a hedonist who maximized pleasure and minimized pain by responding solely to the forces of economic ophelimity.

Over the years, however, Pareto emancipated himself from ophelimity by assuming that *homo œconomicus* had preferences whose origins need not to be investigated from an economic point of view. Pareto made it easier for economics to escape from psychology by economizing on the mental laws postulated by Jevons and Mill.²⁵ Once Pareto had discarded the necessity of inquiring into the motives of actions, he turned his attention to the relation between ends and means, the other issue he had raised in his 1891 letter to Pantaleoni. Between 1898 and 1900, by abandoning the idea of hedonism, Pareto reached his own definition of *homo œconomicus*. We find the clearest exposition of his new conception in the “Summary of Some Chapters of a New Treatise of Pure Economics of Prof. Pareto,” a first draft of his *Manual*, published in the *Giornale degli Economisti* in 1900.

The “Summary” opened with a question of method, suggesting that deductions and inductions could complement each other with the aim of “cementing the fact to the idea” (Pareto [1900] 2008, p. 455). Following this method, premises and deductions should be confirmed by experimental observations. In case of a discrepancy, the initial hypothesis would be modified since only premises approximating reality could generate deductions approximating reality. The “Summary” started with “the fact of choice,” a “direct outcome of experience” that did not need to be analyzing “entities such as the final degree of utility, rareté, or ophelimity, whose capability of being measured [was] a matter of controversy” ([1900] 2008, p. 453). Pareto argued: “The fact that there can be choices relieves us from having to examine the motives” ([1900] 2008, p. 457). We do not have to assume that “the blows afford [the ascetic] *greater pleasure* than a good dinner”; we just need to assume that he voluntarily “*prefers* ten strokes to the good

²⁴ By introducing these distinctions, Pareto seems to anticipate the difference between *homo œconomicus*, homo ethicus, or homo religious presented in the *Manual*. Two years after Pareto's *Cours* was published, Léon Walras addressed explicitly the difference between *homo œconomicus* and homo ethicus in his “Esquisse d'une doctrine économique et sociale” (1898). He stated that man living in society, i.e., homo œconomicus, embraced *homo œconomicus* and homo ethicus, and for this reason “cénonique générale” was a rational and abstract science encompassing pure economics and pure ethics (Bee 2013).

²⁵ On Pareto's theory of choice, see Gross and Tarascio (1998). On whether Pareto completely emancipated from psychology, see Demeulenaere ([1996] 2003, pp. 170–173); Bruni and Sugden (2007); Giocoli (2003, pp. 71–75); Moscati (2018, pp. 79–116).

dinner” ([1900] 2008, p. 457–458). With a direct reference to Edgeworth’s idea of “pleasure machine,” Pareto argued that *homo æconomicus* was just a *choice machine*:

The abstraction based on the subject is the origin of what is called *homo æconomicus*. This is an abstract being which retains only a small number of the characteristics of men in the real world. If we adopt the point of view that pleasure is a quantity, man is reduced to a pleasure machine which seeks to procure the greatest sum total of pleasure on every occasion. If we look at the matter from the point of view of one of the choices, *homo æconomicus* becomes a machine to affect those choices, and this machine, given the circumstances, constantly makes the same. ([1900] 2008, p. 463)

Homo æconomicus was an abstract agent making choices. Mill ([1836] 2006) had postulated that the economic subject could judge the “comparative efficacy of means” to obtain wealth. For Pareto, what mattered was not the motives of the individuals but that they adopted actions that “tend logically to an end”—whatever these could be—and “change logically, with changing circumstances” (Pareto [1900] 2008, p. 456). In this way, economists would have a science “which studies in what way the means are linked to the end, that is, to the choice carried out by the individual” ([1900] 2008, p. 456).

The “Summary” was a turning point in Pareto’s reflection (see Bruni and Guala 2001; Bruni 2013), especially in his attempt to respond to the criticisms on the measurability of utility, pleasure, and ophelimity (Moscato 2018, pp. 79–116). Yet, his answers constituted only a step in the process of refinement of the concept of *homo æconomicus*. The “Summary” represented above all Pareto’s answers to the criticisms of the concept of *homo æconomicus* and to the method of pure economics that he had addressed to Pantaleoni in 1891. This accomplishment was the result of Pareto’s adoption of the “experimental method,” which he associated with the “deductive-concrete” method of Mill’s *System of Logic*, a work he had studied meticulously in his youth (see Mornati 2018, pp. 140–148; Marchionatti and Gambino 1997).²⁶ The methodological explanation Pareto gave in the “Summary” of pure economics as an experimental science implicitly described his own intellectual development, situating himself in a historical process that started with Mill. Following Mill, economists first moved by induction from the fact to the idea. In this way, they observed an element common to a large number of phenomena: “men act logically in order to increase their pleasure as much as possible and to diminish their pain” (Pareto [1900] 2008, p. 466). Then, they deduced some consequences, moving from the idea to the fact. Finally, they compared their deductions with experience. If any discordance was found, then pure economists like Pareto moved again from the fact to the idea, by modifying and completing the latter (Pareto [1900] 2008, pp. 466–467). This process led Pareto to reject the hedonistic hypothesis that all *homo æconomicus* aimed at increasing their pleasure and diminishing their pain. Even the ascetic could be a *homo æconomicus*. In this respect, Pareto broke away from Pantaleoni’s assumption that the ascetic had an anti-economic behavior that would be eliminated by natural selection (Pantaleoni 1898, pp. 17–20), as well as from Bentham, who saw in ascetism a principle opposed to the principle of utility (Bentham 1789, p. vii).

²⁶ Pareto, however, thought that Mill “did not give due credit to the use of mathematics” ([1892–93] 2007, p. 142). Mathematics was a “complicated syllogism-making machine” that provided logical deductions (Pareto 1960, p. 74). On possible changes in Pareto’s attitude towards Mill’s methodology, see Cressati (1985) and Bruni and Guala (1999).

The cleansed hypothesis was that *homo æconomicus* acted logically, that is, that they could judge the comparative efficacy of means to obtain their aims, whatever these may be. Through this process, according to Pareto, pure economists approximated experimental facts by abstract ideas, and thus acted as experimental scientists.

Mill applied the *deductive* method to political economy, but at the same time he did not think that his *concrete deductive* method was applicable to this science. The concrete deductive method might be appropriate for social science as a whole, but the special branch of political economy proceeding deductively did not admit direct empirical verification. In contrast, for Pareto, pure economics could be an experimental science, like physics or astronomy (Pareto [1900] 2008, p. 466). The experimental method would help pure economics restrict itself to a narrow class of phenomena that would better approximate empirical observations.

Pareto's surprising idea was that pure economics could follow the experimental method because it was also the method adopted by the *homo æconomicus*. *Homo æconomicus* could logically associate means to ends by adopting the experimental method. In his *Manual*, Pareto argued that "an objective phenomenon appears to our minds only in the form of a subjective phenomenon" ([1906] 2004, p. 22). The objective phenomenon, however, could be approximated by the subjective phenomenon. In a similar way, the causal relation between two subjective phenomena could approximately coincide with the causal relation between two objective phenomena. Actions based on the subjective relations approximating the causal relation between two objective phenomena are logical. However, actions based on subjective relations that are far from the causal relation between two objective phenomena are only apparently logical, that is, non-logical. According to Pareto, the repetition of experiences could help to reduce possible errors, thereby gradually adapting actions to aims. This brought him to a noteworthy parallelism: repeated experiences in ordinary life could help to identify relations like "the relations a scientist discovers in his laboratory" ([1906] 2004, p. 23). "Little by little, by constantly experimenting and comparing his theoretical deductions with reality," a person in ordinary life will modify the subjective relations and replace them by other relations, "which will come closer to reality" ([1906] 2004, p. 25). Pareto stated explicitly that the "scientist's experimental studies are of this kind, as are many of man's practical actions, including those studied by political economy" ([1906] 2004, p. 25).²⁷ Thus, individuals acted as *homo æconomicus* by adopting the experimental method of scientists, that is, Mill's concrete deductive method. Economists could not rely on controlled experiments, and "must be content with observation" ([1906] 2004, p. 8). However, the observation of "the many logical, repeated actions" ([1906] 2004, p. 72), like market transactions, could provide the material for empirical verification of the assumptions of economics, especially when these were stripped down to their purest form.

Mill ([1843] 2006) considered political economy to be a separate branch of sociology. Pareto also encased pure economics in the larger discipline of sociology, but he articulated the relation between the two disciplines in a different way. The study of real

²⁷ Political economy studied all the actions whose aims were subjectively and objectively logical, both when these aims coincided, as in logical actions, and when they did not coincide, as in some cases of non-logical actions; for example, the logical actions of entrepreneurs looking for profit under competition could lead to unintended logical consequences, i.e. the consumers' benefit; see Pareto ([1916] 1935, p. 86); see also McLure (2014, p. 534).

persons could be obtained by adding to *homo æconomicus* the study of all “non-logical actions” originating from what he called “residues,” “derivations,” or “interests,” which he discussed extensively in his treatise on general sociology published in 1916 (see Pareto [1916] 1935; see also McLure 2001, pp. 50–58). As he wrote in his *Manual*: “The same man, whom I consider as a *homo æconomicus* for an economic study, may be considered as a *homo ethicus* for a moral study, as a *homo religiosus* for a religious study, etc.” Pure economics could thus be completed by other branches of social studies (Pareto [1906] 2004, p. 9).

V. CONCLUSION

Despite its changing physiognomy, the economic man was a persistent figure of nineteenth-century political economy. Mill defended a deductive method for political economy that would allow precise logical deductions against a stable social backdrop. His mental law that individuals strive for wealth was rearticulated in terms of utility maximization by Jevons. Criticisms of the possibility of this calculation ran parallel to criticisms of the deductive method of English political economy. The expression “economic man” emerged in the 1870s in this debate between defenders of the abstract method and more historically minded economists. Claudio Jannet, who probably coined the expression “*homo æconomicus*,” criticized English liberal individualism. Like some German and Irish political economists, he believed the future of political economy lay in a socio-historical study of organic communities like the family and the nation. A number of responses attempted to reconcile the two opposing approaches by broadening the concept of wealth and arguing that the economic man was not so far from reality.

The *homo æconomicus* was reappropriated by Pantaleoni, who argued that he was not an abstraction but the inevitable result of the evolution of species. Pareto preferred to purify Mill’s methodological proposal, removing the references to wealth and even to utility maximization. Thus, at the turn of the century, the economic man was no longer characterized by his attraction to wealth as Mill had originally postulated. He was merely a choice machine selecting the best means to achieve his ends.

While Mill announced a rigorous methodological program in the 1830s, his own political economy fell short of the standard he had advocated. In his *Principles*, he moved from the abstract to the concrete to the art of political economy. Inspired by Mill’s concrete deductive method, Pareto formulated methodological rules that made pure economics an empirical science. More specifically, he assumed that the *homo æconomicus* approximated the empirical reality by following themselves the up-and-down movements of the concrete deductive method.

When we look at the historical development of the concept of “economic man,” the marginal revolution is not a turning point. In the early 1870s, William Stanley Jevons, Carl Menger, and Léon Walras, each in their own way, proposed new foundations for the theory of value that relied on calculating at the margin. Jevons and Walras broadened the scope of mathematical reasoning and Menger proposed a sharp subjectivist critique of the classical theory of value (on this well-known part of the story, see Backhouse 2008). However, for his reliance on a deductive method and for defining the core of economics as following a mental law, Jevons walked in the path opened by Mill in 1836. When

looking at the economic man, the turning point lies elsewhere: he was painted as a straw man by critics of English political economy, before being reappropriated as the main character in the methodological discourse of Pantaleoni, Edgeworth, and Pareto.

We started our inquiry with Mill's 1836 essay because it was the reference point for discussions on the method of political economy for the rest of the century. No other methodological text before generated such an echo. Whether this is a story of continuity or discontinuity hinges on which side of the classical/neoclassical fence we situate Mill.

Mill held on to a classical cost of production theory of value, but his methodological writing puts him closer to the next generation of economists. If we consider him as a classical political economist, then from the point of view of the economic agent, the adoption of marginalism is not a rupture. Neoclassical economists who reappropriated the *homo æconomicus* worked in the continuity of Mill's scientific project. However, if we believe, as Margaret Schabas argued, that "Mill stood less at the summit of classical economics and more in the valley that rose up toward the neoclassical school" (2017, p. 154), then we could say that Mill anticipated the neoclassical *homo æconomicus*. In this line of reasoning, there is a rupture between classical and neoclassical economics, but it happened with Mill as he proposed to break away from the social class-based analysis typical of classical political economy. In any case, and despite the transformation it introduces in economic theory, marginal calculus does not constitute a rupture in the characterization of the economic man.

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