

INSTITUTO UNIVERSITÁRIO DE LISBOA

Adam Smith and the Positive/Normative Dichotomy: A Critical Exploration of the Debate Within His Writings

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Master in Political Economy

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Resumo

A presente tese de mestrado explora o uso de elementos do debate positivo-normativo na Economia nas obras de Adam Smith, avaliando se os seus escritos podem ser interpretados como enquadrando-se na dicotomia rígida que surgiu no século XX na disciplina, ou se, pelo contrário, entrelaçam elementos positivos e normativos.

Condenado como "não científico" durante o século XIX, com o surgimento da dicotomia rígida no século XX, as interpretações de Smith tenderam a seguir o raciocínio dessa divisão, destacando ou um objetivo maioritariamente positivo nos seus escritos, ou um normativo. Através de uma análise histórica e textual dos escritos *The Principles which lead and direct Philosophical Enquiries; as illustrated by The History of Astronomy* (1795), *The Theory of Moral Sentiments* (1759) e *An Inquiry into the Nature and Causes of the Wealth of Nations* (1776), é argumentado que Smith interliga consistentemente elementos positivos e normativos.

Ao revisitar as obras de Adam Smith, o estudo contribui para as discussões em curso sobre este debate, enquanto oferece uma nova perspetiva de análise das obras analisadas.

Palavras-chave: Adam Smith; Metodologia Económica; Positivismo; Normativismo; História do Pensamento Económico

JEL Classification System: B31 – History of Economic Thought - Individuals B41 – Economic Methodology

Abstract

The present master's thesis explores the usage of elements of the positive-normative debate in Economics in the works of Adam Smith. It seeks to assess whether his writings can be interpreted as fitting into the strict dichotomization that arose during the XXth century within the field, or if, on the contrary, they should be viewed as necessarily intertwining positive and normative elements.

Being condemned as "unscientific" during the XIX century, with the emergence of the strict dichotomization in the XX century interpretations of Smith tended to follow the reasoning of the strict dichotomization, either highlighting an overarching positive goal across his writings, or a normative one. Drawing on Smith's lesser explored essay *The Principles which lead and direct Philosophical enquiries; as illustrated by The History of Astronomy* (1795), and his books of *The Theory of Moral Sentiments* (1759), and *An Inquiry into the Nature and Causes of the Wealth of Nations* (1776), the thesis argues that instead Smith consistently interconnected positive and normative elements. This is done through the employment of a historical and textual analysis. By revisiting Smith's works, the study contributes to ongoing discussions on the relationship between facts and values in economics while offering a different analysis lens on Smith.

Keywords: Adam Smith; Economic methodology; Positivism; Normativism; History of Economic Thought

JEL Classification System: B31 – History of Economic Thought - Individuals B41 – Economic Methodology

Acronym List

HA	The Principles which lead and direct Philosophical enquiries;	
	as illustrated by The History of Astronomy	
TMS	The Theory of Moral Sentiments	
WN	An Inquiry into the Nature and Causes of the Wealth of	
	Nations	

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Introduction

Economics has established itself in the last decades as a primarily "value-free" field of study. Famous economists in the past century made it very clear that Economics dealt with ascertainable facts (Robbins, 1935) and have condemned the use of normative assessments in economic analysis, claiming it to be antithetical to the goals embedded in the field of study (Stigler, 1981).

Such perceptions on how economics should be done are greatly interlinked with major debates about its methodology, namely the positive-normative debate. Although an initial philosophical debate, soon enough, it transposed itself into what was once Political Economy, encapsulated in the science/art debate among thinkers like Nassau Senior, John Stuart Mill, or John Neville Keynes. Eventually, it developed into a bidimensional discussion, with a "positive" approach being frequently opposed to a "normative" one. By the writings of later economists like Robbins and Milton Friedman, the former came to dominate the field throughout the XXth century (Blaug, 1992).

The development of the discipline is thus intricately connected with the development of a strict dichotomization between positive and normative economics. This conceptualization has led to further interpretations of Adam Smith in line with attributing to him either a primarily positive aim, or a primarily normative one. However, given the existence of differing perspectives on this issue, one is led to ask whether or not the appliance of a strict dichotomization lens on Smith's writings stands as correct and if, instead, the idea of the intertwining of positive and normative elements (as advocated by Putnam in the field of economics), does not seem more fit.

Accused of being "unscientific" in the XIX century, and afterward being lauded as the founder of empirical economics by writers like Bitterman (1940), the present thesis will seek to explore how Smith uses positive and normative elements across his writings, seeking to understand whether it is possible to draw a strict dichotomy perspective upon him or if, on the contrary, a vision intertwining both elements is necessary. For this purpose, his works cannot be taken as isolated but rather as complementary to better grasp how Smith integrates key elements later found in the positive-normative debate (moral/factual, deduction/induction, prescriptive/descriptive). An attempt will be made to draw similarities between Smith's writings and the positive-normative debate in economics through the employment of a textual and historical analysis. In doing so, not only will the present thesis delve into the roots of one of the most fundamental debates of the discipline, but it will also present a different reading of Smith than those typically done, more focused on his views regarding methodology. Consequently, the thesis will be divided into two different sections. The first one will center around the development of the positive-normative debate, from its first discussions in economics in the XIX century to its consolidation in the XX century, pinpointing some of the central tenets surrounding the debate. The second will look more attentively into Smith's work, namely the *History of Astronomy*, as well as his two major works, *The Theory of Moral Sentiments* and *The Wealth of Nations*, in order to construct an approximation of Smith to the debate at hand.

For the task at hand, both primary and secondary literature will be used in either one of the sections. Nonetheless, the use of primary literature will be more prevalent in the second section of the thesis, given that it will deal with Smith's writings and its subsequent interpretation. For the first section, the literature will mainly consist of a synthesizing of the main developments of the debate throughout time, complementing primary literature with the necessary secondary literature in order to give a more perceptible account of how the debate developed, and to better understand the concepts of "positive" and "normative" economics. This will focus on the works done by Nassau Senior, John Stuart Mill, John Neville Keynes, Lionel Robbins, Milton Friedman, and Hillary Putnam, respectively.

CHAPTER II The Positive/Normative Dichotomy: A Historical Overview

The Positive/Normative dichotomy has been the object of many discussions at the center of economics ever since one can recall. Be it synonymous with distinctions of is/ought, facts/value, objective/subjective, descriptive/prescriptive, or even science/art (Blaug, 1992), most times what is usually presented as a strict distinction comes to demonstrate a big margin for interpretation. The debate surrounding the questionability of the dichotomy itself is nothing new, particularly when applied to the context of Economics specifically, with many authors contesting it, and arguing for a "disinflation" of the dichotomy (Putnam, 2002).

Seeing as though the debate has been at the forefront of many controversies, it remains of the utmost importance, for the object of the present thesis, to reserve a section concerning the historical development of positive and normative economics. Only in doing so, will a better understanding unfold on exactly one means when using such terms in the field of economics, thus providing clarification on the issue. Ultimately, this will provide a basis on which to analyze Adam Smith's works, with hopes of better understanding how the content of the debate, even if not formally established, has been a driving force in the development of the discipline of political economy and economics alike ever since its inception.

2.1. Setting the stage: Hume's Guillotine

In every system of morality, which I have hitherto met with, I have always remarked, that the author proceeds for some time in the ordinary way of reasoning, and establishes the being of a God, or makes observations concerning human affairs; when of a sudden I am surprised to find, that instead of the usual copulations of propositions, is, and is not, I meet with no proposition that is not connected with an ought, or an ought not. This change is imperceptible; but is, however, of the last consequence. For as this ought, or ought not, expresses some new relation or affirmation, it is necessary that it should be observed and explained; and at the same time that a reason should be given, for what seems altogether inconceivable, how this new relation can be a deduction from others, which are entirely different from it. (Hume, 1740, p.715).

Political Economy only established itself in the beginning of the XIX century, nonetheless much of its debates seemed to have been "borrowed" from other fields of study. Much like the concepts of wealth, property, or the *Oecomonomica* had already been discussed by Aristotle in ancient Greece, so too was the positive-normative debate shaped by philosophers that came before the discipline had formally established itself. In his famous *A Treatise of Human Nature* (1740), Hume first enunciated what was to become a deep divide in the study of Economics. Despite being sketched as an issue more so concerning moral philosophy initially, it quickly informed many other academics, namely those of Political Economy, as will be outlined in the remainder of the present section. But firstly, it is important to come to understand what exactly the above passage denotes, or more precisely, what claim is it making.

As expressed above, Hume seems to be at odds with authors that connect statements of "is" with statements of "ought". At first glance, this might mean nothing but a mere remark concerning the correct usage of terms, however, as Hume explains "ought" statements necessarily imply contents of statements. As he puts it, "ought" statements not only necessitate that they "should be observed and explained" (Hume, 1740, p.715), but also that "a reason should be given, for what seems altogether inconceivable" (Hume, 1740, p.715). The traditional reading of this was essentially interrelated with another dichotomy, which came to be understood as a synonym to that of the "is"/ "ought" debate, the "fact"/"values" dichotomy (Weston, 1994). Put shortly, one refers to how things are ("fact"; "is"), and the other to how things should (ideally) be ("ought"; "value"). In Hume, the standard interpretation follows him to be asserting that no set of non-moral premises can entail a moral conclusion (MacIntyre, 1959), thereby delineating a strict separation between "is" and "ought".

This strict dichotomization, despite coming under intense scrutiny in the mid-20th century among scholars of moral philosophy¹, came to be adopted in Political Economy from its inception, gaining its first form under the guises of the "science"/"art" dichotomization of the Senior-Mill tradition (Blaug, 1992) and further establishing itself as synonymous to the "positive"/"normative" debate that stemmed from Keynes' famous trichotomy and consolidated itself in Robbins and Friedman works.

¹ For further references, see *The Is/Ought Question: A collection of papers on the central problem in Moral Philosophy*, 1969, edited by Hudson.

2.2. The "Science"/"Art" debate

At the beginning of the XIX century, Political Economists sought to specify the discipline's limitations and scope in hopes of clearly distinguishing their object of study from the rest of the Social Sciences.

Until then, the study of economic phenomena, although already tackled by groups such as the Scholastics, had always been subservient to other fields, namely that of morality (De Roover, 1955). Similarly, while true that Quesnay and the Physiocrats more broadly attempted to establish economic laws (Samuels, 1962), their treatment of what was to become called Political Economy was inherently entangled with political aims (Fontaine, 1996). In other words, neither Scholastics nor the Physiocrats sought to grasp the "is" of economic systems but the "ought." They were not merely concerned with the description but rather with prescription, or, to put it in another way, they were practicing the "art" of Political Economy, not the "science".

Thus, a myriad of methodological debates sprung up in the XIX century that ultimately came to recognize Political Economy as a "science". Most prominently, Nassau Senior, John Stuart Mill, and John Neville Keynes firmly defined the scope and limitations of the field, eventually developing the "science"/"art" debate into the "positive"/"normative" dichotomy.

2.2.1. Nassau Senior

Nassau Senior's works formalize the "science"/"art" distinction of Political Economy. Following in the footsteps of David Ricardo, who attempted to introduce methods of isolating economic tendencies through the use of strong cases (Bowley, 1936), Senior identified a gap in the methodological inquiries of Political Economy and attempted to clarify it (Blaug, 1992).

Despite discussions like the Ricardo-Malthus-Say controversy² revolving around methodological inquiries, none seemed to provide many justifications for their claims (Bowley, 1936). Recognizing this, Senior felt as though Political Economy was at risk of falling behind, of having its progress "retarded", as he so famously puts it. This was due to a simple, but fundamental, confusion: Was Political Economy the study of the

² Although not primarily focused on methodological questions, the Ricardo-Malthus-Say controversy exhibited disagreements over how to do economic analysis (Bowley, 1936). While Ricardo employed a deductive approach, isolating economic tendencies, Malthus and Say favored an inductive method, emphasizing empirical observation and arguing that short and long-term tendencies were interconnected (Cremaschi and Dascal, 1996).

attainment of Welfare, or the study of the nature of Wealth? If the first, then it should be concerned with the raising and employment of public money. If the second, then it proposed isolating wealth from other confounding causes.

As he saw it, Political Economists stood in the dark in the face of this question, much to the detriment of the field, leading him to separate between the "art" and the "science". "Art" here is meant as a statement of means, with the purpose of attaining a given end (Senior, 1852), thus being a tool to "influence the will" (Senior, 1860, p. 357), to advise or offer precepts. "Science", on the contrary, poses a statement of existing facts, accounting for observed phenomena using general laws or principles (Senior, 1852).

Thinkers before Senior were much more focused on offering precepts than employing descriptions of facts. Aiming at the end of the attainment of wealth, they were thus occupied with the art of Political Economy, that art "which points out the institutions and habits most conducive to the production and accumulation of wealth" (Senior, 1852, p.20). If this was so, then Political Economy was not an independent field of study but rather an integrating part of the "Science of the Legislator"³ (Senior, 1836).

As it stood, Senior pinpointed this as a problematic framework on which to base Political Economy, because of the murkiness associated with it. If the object of study is, indeed, Welfare, then no permanent judgments can be made about its causes without recourse from other branches of knowledge. Political Economy would be unable to provide general principles, as it would always depend on confounding causes from other fields. Adding to this, Senior feared that in adopting the "art", Political Economy would fall prey to personal biases that come with favorable or unfavorable views towards given policies, further eroding its reputation (Senior, 1852).

For Political Economy to progress, Senior consequently thought that the only possible route was to follow its "scientific" form, defined by him as "the science which states the laws regulating the production and distribution of wealth, so far as they depend on the action of the human mind" (Senior, 1852, p.20).

This "science" pertained to what he termed the "mental sciences," contrasting with the approaches of the physical and pure sciences in how they derived their premises. While the last two come to disregard almost entirely the phenomena of consciousness, adopting either observation (physical) or hypothesis (physical and pure) as the starting

³ The "Science of the Legislator" refers to the approach in which legislators apply scientific principles and rational analysis to craft laws and policies that promote the welfare of society. In Senior, it is seen as the main end of the "art" of Political Economy. For further reading, see Haakonssen (1981) and Winch (1983).

point, the former sets out from the qualities of the mind (sensations, faculties, and habits). This meant that, in attempting to formulate general principles, Political Economy followed deductive reasoning, with the aid of the precepts collected by consciousness of the real world (the experience). This translated into a recognition, in Senior, of Political Economy as a representation of ideas, isolating the concepts employed with recourse to the mind rather than to experiments. As he puts it,

All the technical terms, therefore, of Political Economy, represent either purely mental ideas, (...), or objects, which, (...), are considered by the Political Economist so far only as they are the results or causes of certain affectations of the human mind, (...) (Senior, 1852, p. 33).

With the appliance of the "science"/"art" dichotomy in Political Economy, Senior subsequently came to delineate the scope of the role of a Political Economist to be strictly limited to the search for the laws governing the distribution and production of wealth, in the realm of the "mental sciences". This essentially meant a condemnation of any aid given for the outline of public policies, or even just recommendations (Bowley, 1936; Hutchison, 1964; Blaug, 1992), due to the shift that such a task entails from the "sciences" to the "arts". This much is evident when looking at his later stages of life, where he asserts, "We cease to be scientific as soon as we advise or dissuade, or even approve or censure" (Senior, 1860).

Overall, Senior stands out for his remarkable efforts in furthering the autonomy of Political Economy. Coming from the outset with a clear intent of battling against what he saw as the retardation of the field, he seems to have been a pioneer in the methodological question. By understanding the presence of an underlying confusion regarding the objectives and aims of Political Economy, a version of "Hume's Guillotine" ended up being introduced in the form of the "science"/"art" distinction. Additionally, in outlining the discipline as a "mental science", Senior was able to sketch for the first time an explicit method of how to proceed in the study of wealth, namely through a mixture of intuitionism and deductive reasoning, with experience or observation forming the initial ideas from what is "self-evident", and the remaining theory building being done with the aid of consciousness.

Senior's contributions paved the way for a protracted debate that was still in its nascent phase. Following Senior, John Stuart Mill would emerge to refine the methodological discourse. While both scholars shared many similarities in their perspectives, Mill diverged from Senior's classification of Political Economy, categorizing it as "hypothetical" or "abstract". This distinction led to significant differences in their approaches to the purpose of premises and conclusions in economic theories. Mill's emphasis on "simplification" or "abstraction" gained prominence, laying the groundwork for developing the positive/normative dichotomy.

2.2.2. John Stuart Mill

Having lived at the same epoch as Senior, Mill was more than familiar with his work, even engaging in discussions with some of his theories⁴. When it came to methodological concerns, their efforts seemed to be aligned in hopes of establishing Political Economy as an autonomous branch of study. Both were pioneers in distinguishing "art" from "science", and both are labeled as "ultra-deductivists"⁵ by contemporary writers (Hutchison, 1998). Nonetheless, as pointed out above they diverge in a very fundamental aspect that leads to a very important difference in their conception of the "science", that of the classification of Political Economy as an "hypothetical" or "abstract" science.

As expressed in his "Four Introductory Lectures", Senior goes to great lengths in denouncing "hypothetical science" as a "danger" (Senior, 1852, p. 31) to Political Economy, claiming this method to be prone to confusion between the hypothetical nature of the premises and that of reality. As we will see, however, Mill's opinion gained more influence. For us to understand this, we should now turn to an analysis of his conception of the "science" of Political Economy.

For this purpose, it is important to look at a critical essay written by Mill in 1836, "On the Definition and Method of Political Economy". In it, Mill tasks himself with providing "a definition exactly co-extensive with the thing defined" (Mill, 1836, p. 88), proceeding to denounce the previous definitions given and culminating in the furnishing of one that encapsulates the spirit of a "science".

Here we do not observe much deviation from the definition of "science" furnished by Senior. According to Mill, science pertains to facts, aiming at searching for generalizations to explain phenomena using "Is" propositions. "Art" on the other hand,

⁴ An example is found in the response regarding the "abstinence" theory of capital and interest of Senior in Mill's *Principles* (1848, pp. 250-252)

⁵ "Ultra-deductivism" refers to a strict form of deductivism in economic theory that asserts all economic propositions should be derived logically from a limited set of axioms.

refers to precepts, organized in a systematization of rules, and aiming at given ends, thus using terms like "Do this" or "Avoid that" (Mill, 1836, pp. 88 and 89).

Having this in mind, we are presented with a further problem, already present in Senior: What is the object of study of Political Economy? Surely, it could be pointed to those "laws which regulate the production, distribution, and consumption of wealth" (ibid). However, just as noted by Senior, these laws are as much constrained by physical sciences (of laws of matter) as by moral (or "psychological") sciences (of laws of the mind). Thus, if Political Economy were defined as such, it would encompass various distinct fields, being depleted of autonomy.

Political Economy should then concern itself only with those laws of the distribution and production of wealth which depend upon what Mill deems to be the laws of human nature. From this, he narrows the definition even more, reaching the subsequent conclusion of Political Economy as "the science which traces the laws of such of the phenomena of society as arise from the combined operations of mankind for the production of wealth, in so far as those phenomena are not modified by the pursuit of any other object" (Mill, 1836, p.99).

What is remarkable in this definition is that Mill seems to be approaching an attempt at supplementing Ricardian economic traditions with epistemological and moral considerations (Redman, 1997; Hands, 2001; Milonakis and Fine, 2009), something evident in his introduction of the "laws of nature" to the equation. On the surface, this might not seem that different from Senior's definition. However, it gives way to a completely different way of envisaging the method of political economy.

Mill seeks to isolate the study of those phenomena concerning the production and distribution of wealth as abstractions (Blaug, 1992; Hinnant, 1998; Colander and Su, 2015). This leads him to proclaim that the science of Political Economy should be concerned with man "solely as a being who desires to possess wealth, and who is capable of judging the comparative efficacy of means for obtaining that end," making an "entire abstraction of every other human passion or motive" (Mill, 1844, p. 97)

Mill hence enunciates for the first time what has come to be known as the "*homo economicus*" or the "*economic man*" (Blaug, 1992). However, Mill was more than aware that this conceptualization should remain for methodological purposes only (Hinnant, 1998), stating that no 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" (Mill, 1836, p. 98). This reveals to us a significant contribution of Mill to the

methodological debate: the ascribing of Political Economy as an *a priori*, instead of an *a posteriori*, science.

As seen with the *economic man*, Mill adopts abstracted assumptions as the basis for hypothesizing in Political Economy. Consequently, Political Economy stands as a body built from assumptions and hypotheses, encompassing an "arbitrary definition of man", that reasons from assumed premises, which "might be totally without foundation in fact, and which are not pretended to be universally in accordance with it" (Mill, 1836, p. 102). From this, it stands that the conclusions reached by a Political Economist can only be true in the abstract or "if the ceteris paribus condition is satisfied" (Blaug, 1992, p. 60).

Despite the emphasis given to the role of deductive and *a priori* reasoning, Mill does not entirely exclude inductivism. Quite the contrary, he seeks to make it clear that those "assumed hypotheses" are necessarily "self-evident" to us through means of experience or observation in the form of "introspection" (Blaug, 1992). This mixing up of inductive and deductive elements led him to term his methodology as a "mixed method of induction and ratiocination" (Mill, 1836, p. 45), with Mill denying the existence of an opposition between deduction and induction and instead favoring an intertwining of both (Mill, 1843, p. 259).

Moreover, *a posteriori* reasonings were adopted by Mill in his use of verification. A major reason why Mill described the conclusions as only being true in the abstract had to do with his recognition of the impossibility of Political Economy to employ experimentation. Theories would always be constrained by "disturbing causes", due to many of them existing outside of the scope of the study of Political Economy (Mill, 1836). Thus, the next best thing the field could hope for would be to confront the conclusions with empirical evidence while attempting to account for the "disturbing causes" and employ necessary corrections or alterations in the theory. This emphasis on subjecting theories' conclusions to verification is what led later Economic Historians to label Mill as a "*verificationist*" (Blaug, 1992).

However, this *posteriori* element is not concerned with the method of political economy *per se*, but rather the application of the theories in practice (accounting for particularities). This makes up the difference between Political Economy and physical sciences. The conclusions of the former can only ascertain tendencies, not actual results, as with the latter (Mill, 1836). In Mill's words (referencing Political Economy),

instead of arriving at its conclusions by general reasoning and verifying them by specific experience (as is the natural order in the deductive branches of physical science), it obtains its generalizations by a collation of specific experience and verifies them by ascertaining whether they are such as would follow from general principles. (Mill, 1843, p. 219).

The narrowing down of Political Economy's method as an abstract or hypothetical science led Mill to admit that Political Economists would not be apt to advise if they remained in the enterprise of the "science". However, he still sees the importance of its application to practice, as evidenced by his *Principles of Political Economy* (1848). For Mill, Political Economy should not be presented as isolated but as a complementary field to the "broader range of social and ethical matters" (Milonakis and Fine, 2009, p. 32), following his dictum that "a person is not likely to be a good economist who is nothing else" (Mill, 1865, p. 77).

Having spent a reasonable amount of space digressing on Mill's vision for the study of Political Economy, we shall now turn to the turning point between the science/art debate and the positive/normative debate, with John Neville Keynes' trichotomy as the "bridge" between them.

2.2.3. John Neville Keynes

Throughout the 19th century, the evolution of methodological frameworks within Political Economy primarily revolved around endeavors to establish its status as a "scientific" discipline as opposed to an "art." While scholars like Senior advocated for its integration into the realm of "Mental Sciences", and Mill emphasized its association with "Hypothetical Sciences", the explicit delineation between its positive and normative elements remained largely implicit in their works (Hutchison, 1964). These were first made explicit through the publication of John Neville Keynes' *The Scope and Method of Political Economy* (1891). Keynes' work laid the groundwork for the discipline's future trajectory and formalized its defining characteristic: the conception of Economics as a Positive science.

Keynes starts from a similar position to that of Mill, conceptualizing abstract reasoning as the fundamental cornerstone of economic principles. Keynes is keen on assuming abstraction as a useful tool in discerning a certain part of a complex reality. In taking economic phenomena as they are, the absence of counteracting causes allows the identification of the processes of cause and effect, thus revealing a given portion of "reality". In his own words, hypothetical laws are not "*unreal or out of relation to the actual course of events*", given that they "*affirm categorically the mode in which given causes operate*" (Keynes, 1891, p. 291). Consequently, economic laws cannot be accused of arbitrariness for its abstract nature, as Senior thought.

Furthermore, by focusing on economic phenomena and ignoring the counteracting causes, economic laws necessarily entail a static and universal character. That is, they depart from assumptions that view the socio-economic environment as fixed and consequently attain a universal validity or non-relative to time and space. These laws are then only valid in the form of tendencies, much like already stressed in Mill.

Despite merely reinstating an idea already present in Mill, Keynes nonetheless deserves recognition for further clarifying the meaning behind "abstraction" (Moore, 2003). It is from this conception that Keynes is led to develop his trichotomy. In face of the *Methodenstreit*⁶, Political Economy had yet to achieve the desired autonomy and delineation of its scope. The contributions advanced by Mill and Senior were apt in their efforts to make it "scientific", but both remained very much dependent on other moral sciences.

Trying to settle this methodological debate (Moore, 2003), Keynes went on to subdivide Political Economy into three spheres: the Positive, the Normative (or regulative), and the Art. According to him, the first concerned itself with "what is", focusing its research on the discovery of "scientific facts and their uniformities" (Keynes, 1891, p.22). The second, concerned itself with "what ought to be", aiming at determining ideas, or the ideal (ibid.). Meanwhile, the third is identified with a "system of rules for the attainment of a given end" (ibid.).

Viewed as a discipline seeking to discover the processes behind economic phenomena, Keynes identified Political Economy as necessarily positive. By emphasizing idealizations of neutrality, avoidance of precepts, and avoidance of rules, Political Economy should focus on striving for the search of "truths" or objectivity, which turns political economists' priorities towards retaining "their scientific status and secure the scientific foundations of economic reasoning" (Moore, 2003, p. 23).

⁶ The *Methodenstreit* was a late XIX century debate centred on methodology. On the one hand, Austrians like Menger advocated for a deductive approach based on individual behavior and universal economic theory, while authors from the Historical School, like Schmoller, emphasized an inductive method focused on empirical research and historical context. For more see Louzek (2011).

The tripartite division serves to distinguish and define the scope of Political Economy. However, this does not imply a strict dichotomy between positive and normative economics, a view that Keynes did not endorse (Hands, 2012). Keynes further elaborated on the differences between the abstract and concrete branches of positive economics. The abstract branch focuses on deductive and a priori reasoning, while the concrete branch relies on empirical and inductive logic. Both are necessary for positive economics: abstract economics provides general laws, and concrete economics addresses the specific contexts and counteracting causes often overlooked by the former.

This is a shift from Mill, which restricted political economy merely to the study of laws concerning wealth, something Keynes viewed as "clearly mischievous to aim at an entire isolation of economics from other social sciences" (Keynes, 1891, p. 135). Whereas the transposition of the abstract into the concrete necessitated, in Mill, the recourse to social scientists (outside of the sphere of Political Economy), Keynes thought that it was within the scope of political economists to effectuate such transition (Moore, 2003), since "Neither the conception of the economic man nor any other abstraction can suffice as an adequate basis upon which to construct the whole science of economics" (Keynes, 1891, p. 61), if one is to seek "a distinct systematized body of knowledge, which is primarily and directly concerned with economic phenomena alone" (Keynes, 1891, p. 56). In other words, the abstract formulation of Political Economy needs to be supplemented by a concrete study of it, all within the positive sphere of studies, to greater understanding of reality's complexity.

Albeit still under "positive economics", concrete economics as devised by Keynes are in permanent communication with normative elements, much like the inverse. Similarly, by formulating the "*art*" as a body of rules aiming at certain ends, Keynes again stresses the need for interconnectedness. In formulating given "ends" one needs to speak of the normative, and for the body of rules (or the "means") to be established, one needs to endeavor on the positive enterprise.

Positive/Normative: A Strict Dichotomy?

Ever since Keynes trichotomy, much changed in Economics as an academic discipline. The idea of an "art", being denounced as non-scientific, and the view of methodology as positive triumphed. Contemporary textbook definitions portray Economics as "the study of how people and society choose to employ scarce resources that could have alternative uses, to produce various commodities and to distribute them

for consumption, now or in the future, among various persons and groups in society" (Samuelson and Nordhaus, 2009), and maintain that, as such, values have no place in the discipline due to it being concerned entirely with "what is".

The distinction between positive and normative thus evolved, from Keynes' interconnectedness to a strict separation, a process very much influenced by the publication of a seminal methodological work in 1932 by Lionel Robbins, *An Essay on the Nature and Significance of Economic Science*, and Friedmans' *Essays in Positive Economics* (1953). Nonetheless, despite the influence of these perspectives, in recent years, the strict dichotomization has been called into question, with some, like Putnam (2002), arguing for the entanglement of positive and normative elements within Economics and Science in general.

2.2.4. Lionel Robbins

Robbins attempts to provide what he saw were the commonly held views among economists on the methodology of economics, portraying it as a descriptive work, "But, in the main, my object has been to state, as simply as I could, propositions which are the common property of most modern economists" (Robbins, 1932, p. XV). Accordingly, Robbins' *Essay* delves into three main questions. Firstly, the subject matter of economics. Secondly, the nature of generalizations of economics. And, thirdly, the bearing of economic science on practice (Scarantino, 2009). From these, positive economics is made synonymous with economic science.

Starting off with his definition of Economics, Robbins seeks to broaden the domain of inquiry for the Economist. As seen in the previous sections, Political Economists saw the discipline as concerned only with phenomena pertaining to wealth or its attainment. Robbins, however, following a trend already present in the marginalist revolution (Hands, 2009), identified the main issue of the science of Economics to be that of the problems of scarcity and choice. According to him, Economics is "the science which studies human behavior as a relationship between ends and scarce means which have alternative uses" (Robbins, 1932, p. 16). In other words, Economics as a discipline seized to be restricted to human behavior aimed at material wealth but is extended to all actions involving the choices between "scarce means" with "alternative uses".

The term here used by Robbins as "scarcity" is defined as a relationship between objectives (or ends) and the means for its attainment (Robbins, 1981, p. 2). To put it

simply, Economics as a science is concerned with the means to attain the ends, with the ends being taken as given (Hands, 2008, p. 832). Robbins himself stresses this in his *Essay*, claiming that "Economics is not concerned at all with any ends as such. It is concerned with ends in so far as they affect the disposition of means". (Robbins, 1932, p. 29).

From this view of Economic science as "scarcity" two things are to be further explored: Positive Economics as "pure science"; Value judgements as "Political Economy".

Starting with the former Robbins is, from the outset, focused on characterizing Economic science as neutral. Being concerned only with the means, Economics should stick to the study of statements of existence or possibility, with "what is", and remain neutral in explanations of causes and consequences. The justification behind this is found in Robbins' idea that the involvement of judgements cannot be submitted to scientific test, due to it not being concerned with facts, but rather with values. As he sees it "Economics is neutral between ends [and] it cannot pronounce on the validity of ultimate judgements of value" (Robbins, 1932, p. 147), and "Economics deals with ascertainable facts; ethics with valuations and obligations" (Robbins, 1932, p. 148).

The best case to illustrate Robbins thought of Economic science as Positive is in his considerations regarding the interpersonal comparisons of utility or "Welfare Economics" as a whole. Usually referring to the comparison of the satisfaction or wellbeing experienced by different individuals, interpersonal comparisons of utility were widely used before Robbins. Nonetheless, in the *Essay*, he goes on to denounce it as being unscientific, since "*t*here is no means of testing the magnitude of A's satisfaction as compared with B's" (Robbins, 1932, pp. 139-140). In his opinion, such task was inherently subjective and, hence permeated by normative judgments, being concerned not only with means, but also with ends.

Robbins denouncement of normative judgments had to do mainly with one key issue, that of testability. For Robbins, if scarcity was to be the defining character of Economic science, this "science" had to be conducted through the "formation of hypotheses explaining and (possibly) predicting the outcome of the relationships concerned and the testing of such hypotheses by logic and by observation" (Robbins, 1981, p. 2). In a later stage of his life, he updated his methodological development of Economic science to integrate certain components of Popperian falsificationism (Scarantino, 2009; Ostapiuk, 2020), claiming that Economics should aim at "hypotheses

which survive the test being regarded as provisionally applicable" (Robbins, 1981, p. 2), a big shift from the verificationist aim of Senior, Mill and Keynes. Regardless, for hypothesis formation to be possible within the Economic science, its elements should be, at the least, "indirectly testable" (Robbins, 1981, p. 3).

Normative judgments, as he saw, were inherently non-testable due to them being subjective. As it was with interpersonal comparisons of utility and Welfare Economics, their basis was founded on subjective conceptions of well-being or utility, thus implying ethical concerns and, consequently, certain ends in mind. As such, they could never fall into the scope of Economic science, since their character is adverse to positive testable propositions and, hence, non-scientific.

From here the strict separation between positive and normative economics first arose. Nonetheless, despite making positive economics synonymous with economic science, Robbins did not endorse the view that economists should abstain from any public advice (as suggested by Senior). As he viewed it, "Economics" was not narrowed down to the science of economics but had a more normative branch of it, which he identified with "Political Economy". In his words, Political Economy is "quite unashamedly concerned with the assumptions of policy and the results following from them" (Robbins, 1981, p. 8), therefore employing normative judgments for defining the ends, with means being only a subsidiary concern. Accordingly, Robbins does not condemn economists from entering the realm of the normative, what he condemns is the conflation between Economic Science and Political Economy.

Although Robbins' *Essay* can be said to have introduced the strict dichotomy between positive and normative economics, it had yet to provoke a real shift in economics' methodology, in the sense that it stands as a continuation from the Nassau-Mill-Keynes tradition of autonomizing Economics as a science (Colander and Su, 2015). Ethics and values may be shunned from the scientific sphere, but they still exist in the realm of Economics, albeit inside Robbins' conceptualization of Political Economy, not Scientific Economics. Nonetheless, an interplay between them still had to exist, with the former being informed by the latter.

2.2.5. Milton Friedman

Only in the 1950s do we find a definite divorce from such tradition in the form of Milton Friedman's *Essays in Positive Economics* (1953), wherein Friedman sketches not only what Positive Economics is (methodologically) but also what it entails. From the start,

one can easily discern the major difference between his views and those of the previous authors so far analyzed. While Senior, Mill, and Keynes emphasized the importance of verification of theories applicability, Friedman stresses that the main task of theories is "to make correct predictions about the consequences of any change in circumstance" (Friedman, 1953, p. 4). Friedman further claims that Positive Economics necessarily aims at achieving a system of generalizations, which, in aiming for objectivity akin to that of physical sciences (ibid.) needs to be independent of ethical positions, equating it to normative elements.

The shift in focus towards predictability leads to a major difference in methodology. As Friedman points out, theories serve mainly as a body of hypotheses designed for abstracting or simplifying complex reality. If so, then they can never hold true in terms of description but as mere tautologies. By being simplifications, assumptions cannot by themselves prove a theory wrong or right, with the validity of a theory lying in empirical confrontation with the conclusions, namely in the predictive power of the conclusions.

Friedman took notice of the inductive problem⁷ in Economics, recognizing the impossibility of solving it within the field (Boland, 1979), thus leading him to posit that economic hypotheses and theories cannot be "verified", with the term here being used as synonymous with a search for their trueness (Boland, 1979). Consequently, the task of perceiving the validity of a theory can only be done *a posteriori*, through the confrontation of the results with the real data (or "facts"). In short, through the predictive power of a theory.

Consequently, Friedman adopts an "as if" theorizing (Blaug, 1992; Boland, 1979), in the sense that economic theories treat the assumptions as if they were true. Individuals are thus conceptualized as if they behaved in a given (assumed) way to examine the effects of such behaviors. Whether or not individuals behave that way is beyond the point since the focus stands on examining the effects. What matters for positive economics is whether the effects of observed behavior correspond to those concluded by the theories' assumptions. In essence, "realism" in theories only matters regarding the conclusions, not the assumptions. As Boland (1979, p. 512) puts it "one can say there must be an assumption that is false whenever some particular conclusion is false (modus tollens), but one cannot say any assumptions are true because any conclusion is true".

⁷ The difficulty of building general principles or laws from observations.

Concerning the "simplification" character of assumptions, this is a necessary result of the problem of induction. Since economic theories cannot be put to the test on their own, they serve the purpose of capturing the essential or significant features of whatever phenomena are being studied. For this to happen, they need to be abstracted from the complex reality surrounding it and reduced to general characteristics, from which the conclusions will be deduced. In such a process, the assumptions necessarily lose "realism" from a descriptive standpoint.

Not only does Friedman argues that theories do not need their assumptions to be correct but he goes further, claiming that they "must be descriptively false in its assumptions" (Friedman, 1953, p. 14) due to their nature. This does not mean that one can start with any assumption one thinks apt, as the assumptions are constrained by the object of study or the phenomena concerned, for "the relevant question to ask about the 'assumptions' of a theory is... whether they are sufficiently good approximations for the purpose in hand" (Friedman, 1953, p. 15). Being construed as simplifications of a given phenomenon, their "realism" in a descriptive character is neither "true" nor "false" (objectively) and stands as being only concerned with the specific object it is analyzing. Consequently, assumptions have no truism imbued in them, hence no normative character, but serve as mere segways towards the predictions derived from them. The "decisive test is whether the hypothesis works for the phenomena it purports to explain" (Friedman, 1953, p. 30).

Whereas the Senior-Mill-Keynes tradition stressed that one could only verify to what extent the theories' conclusions applied to the empirical data, Friedman's approach emphasizes the capacity of theories to produce falsifiable predictions, arguing that a "hypothesis is rejected if its prediction is contradicted" (Friedman, 1953, p. 9).

Friedman's *Essay* caused a great deal of controversy within Economics upon its publication, with the central tenets of it still influencing the way economists view the discipline to this day (Blaug, 1992). However, it should be pointed out that Friedman wrote in ambiguous ways, with "theory", "assumptions" and "hypothesis" not being clearly defined, much like "simplicity", "realistic" or "validity" (Blaug, 1992). As a result, plenty of criticisms, namely from philosophers of science, started arising, with a particular focus on the apparent strict dichotomization Friedman was making between the "is" and the "ought," or the "facts" and "values." Among them, Hillary Putnam stood out as one of the most influential, proposing the "entanglement thesis", and consequently reshaping the debate surrounding positive/normative economics.

2.2.6. Hilary Putnam

Before presenting the main ideas of Hilary Putnam concerning the strict dichotomization between positive and normative Economics, a context should be provided of how the criticisms arose in the first place. Putnam was not the first to contest the dichotomization, with figures such as Gunnar Myrdal declaring the inevitability of value judgments in economic analysis (1954), and others like Ernest Nagel (1961) also emphasizing the inherent interplay between science and what he called characterizing (or methodological/epistemic) values⁸.

Nonetheless, many of these criticisms always remained in the background, with the positive/normative divide built upon the facts/value distinction persisting. Such had much to do with the deep influential effect that a method called logical positivism had on Economics. Coined by Carnap and Neurath during the 1920s (Ayer, 1959), logical positivism holds that one cannot discern questions of fact without appeal to observation, following a strain of empiricism (Russell, 1950). Put briefly, logical positivists delineate between three classifications of sentences: synthetic, analytic, and nonsense (Ostapiuk, 2020). The first, being empirically verifiable or falsifiable, contains statements of facts. The second, due to its inability to be logically verified by reality, is formalized as a tautology (only possible to verify through logical rules). The last ones pertain to ethical, metaphysical, and aesthetic judgments, which are called "nonsense" due to their apparent "cognitive meaninglessness"⁹.

Logical positivism thus appears as a rejection of metaphysics, ethics, and aesthetic questions, in sharp contradiction to the Senior-Mill-Keynes tradition. When applied to economics, the discipline started following a value-free approach (*wertfrei*), meaning that all those philosophical questions had to be shunned and that economists should merely pay attention to either synthetic or analytic knowledge, all the while relegating the rest as being "meaningless" (Ostapiuk, 2020).

The influence of logical positivism in Economics explains, in part, the conception of the positive/normative divide as a sharp dichotomization, also leading to economists (like Milton Friedman), to only pay attention to methodological issues within the

⁸ Values conducive towards the choice of the objects of study, or for the selection of judging validity and the mode of investigation (ex.: "objectivity"; "falsifiability"; "consistency"; "transparency").

⁹ The term "cognitive meaninglessness" is here used to imply the impossibility to verify nonsense statements.

discipline when delving into the debate. And this is where the more recent criticisms coming from philosophers like Hilary Putnam come into relevance. In his essay *Objectivity and the Science/Ethics Distinction* (1989), as well as his book *The Collapse of the Fact/Value Dichotomy* (2002), Putnam makes the argument that, contrary to the logical positivist tradition, ethical and normative values are entangled with facts.

Putnam starts by denouncing a confusion permeating the logical positivist thought concerning its intent of construing the "right description of the world" and that of "objectivity". Such concepts are presented as being synonymous (for logical positivists), but as pointed out by Putnam, the idea of "objectivity" is itself a perspectival term, which is "governed by standards appropriate to their particular functions and contexts " (Putnam, 2002, p. 33). In other words, it is not a "right description of the world" in the factually neutral way presented by logical positivists. This is relevant because in making those ideas synonyms, logical positivism concludes ethical values to be outside of "objectivity". If wrong, the so-called "nonsense" statements need to be considered when speaking of attaining "objectivity".

A prime example of ethical values that fit in the discussions surrounding the "objectivity" of theories is what Bernard Williams (1985, pp.140-142, 150-152) termed as the "thick" ethical concepts. These refer to concepts that, when used, express both descriptive and evaluative content, standing in opposition to the "thin" ethical concepts, which express clearly evaluative content but not much descriptive content (Kirchin, 2013). "Thick" concepts are, by nature, more specific characterizations, whereas "thin" concepts stand as general abstractions and, due to this, fail to be descriptive.

Putnam (2002, pp.34-43) focuses on the "thick" concepts, outlining the example of "cruel" as necessarily reflecting the entanglement between facts and values. When someone says, "the person X is cruel", one is both outlining a person's character and making a value judgment towards that person, given that "cruel" not only serves as a characterizer but also as a condemnation of a purported negative attribute. In this sense "thick" concepts have a dual function of describing and evaluating.

Due to its dual character, one could argue that in using a "thick" concept, one intends to merely describe and not evaluate. However, to use a "thick" concept, as Putnam argues, one must adhere to the expounded ethical framework for, "if one did not at any point share the relevant ethical point of view one would never be able to acquire a thick ethical concept" (Putnam, 2002, pp. 37-38).
In importing this logic to the question of means and ends in Economics, Putnam counters the view that economists merely disagree on means (Colander and Su, 2013), a view shared since Robbins conception of Economics as a choice between alternative uses of scarcity, and instead posits that the disagreement arises in differing ends, and, by extension, of values.

With Putnam's contribution, the positive/normative strict dichotomization comes under fire. If economic theories are inherently value-laden with "thick" ethical concepts, then it follows that the aims of a truly "objective", "descriptive" and "neutral" science of Economics (as purported by logical positivists) is ultimately unattainable. In the words of Vivian Walsh (quoted in Putnam, 2002), "if a theory may be black with fact and white with convention, it might well (as far as logical empiricism could tell) be red with values".

CHAPTER III Going Back to the Roots: Adam Smith

Having undergone the sketching of the historical development of the positive-normative debate in Economics, we shall now turn to the second, and primary interest of the present thesis, that of the relation between the debate and the writings of Adam Smith.

Expounded as the "father of modern economics", many have come to associate one of his major works, *An Inquiry into the Nature and Causes of the Wealth of Nations* (1776), with the descriptive, factual elements that permeate what was here described as the "positive economics". However, before anything can be developed further, one needs to remember that Adam Smith saw himself as a philosopher, first and foremost. Having taught Logic and Moral Philosophy at the University of Edinburgh, he was greatly involved in the discussions of his time surrounding the Scottish Enlightenment (Rae, 1895), engaging with contemporaries of his like David Hume or Francis Hutcheson, and hence being inserted in the center of great philosophical debates, with particular attention towards those concerning human nature, morality or jurisprudence.

Hence, when analyzing Adam Smith, one should be careful not to isolate his works. Previously to the *Wealth of Nations*, Smith published another, equally important book, titled *The Theory of Moral Sentiments* (1759), one which, admittedly, has caught quite the attention of scholars since the XXth century, with Jacob Viner (1927), Bitterman (1940), Reisman (1976), Skinner (1979), Winch (1983), as some major examples. However, an essay of Adam Smith entitled *The Principles which lead and direct Philosophical Enquiries, illustrated by the History of Astronomy*, or *History of Astronomy* for short, published posthumously (1795), has been somewhat less explored in the literature when compared with WN and TMS, despite prominent historians of economic thought like Schumpeter asserting that "nobody… can have an adequate idea of Smith's intellectual stature who does not know these essays" (1954, p. 182).

The primary discussions surrounding Smith have revolved around what is known as *Das Adam Smith Problem*, which deals with the apparent contradiction existing with the emphasis on the role of "sympathy" and "benevolence" in TMS and that of "selfinterest" or "self-love" in the WN. This question has usually led many scholars to adopt a position of highlighting either a "positive" Smith or a "normative" Smith (Fitzgibbons, 1997). Being much more related to the philosophy of science (Berry, 2006; Diamond, 1986), HA is an essential source of Smith's views on the methods for scientific enterprises. Consequently, when seeking to complement Smith's views between TMS and WN, the HA may appear as a linking point between them, thus paving a better understanding of Smith's writings' "positive" or "normative" aspects.

The section at hand will first present an outline of the evolution of how Smith has typically been viewed concerning the positive-normative debate, giving the reader a greater understanding of the surrounding debate. This will be followed by examining Smith's works, with sub-sections divided into the HA, the TMS, and the WN. These will be seen not in the usual focus on the main themes of the *Das Adam Smith Problem* (that of "sympathy" and "self-interest"), but rather the question of positivity and normativity, more broadly. Such will require tracing commonalities between Smith's views across the HA, TMS and WN. Each sub-section will finish with a corresponding linkage to their respective usage of positive or normative elements, hoping to highlight how Smith conceptualizes this.

3.1. Views on Smith

As it has already been presented, the positive/normative debate only started explicitly developing with the introduction of the science/art debate by Nassau Senior (Blaug, 1992). Although appearing after Smith's death, many authors, when presenting their views within the debate have discussed elements of the debate within Smith itself. This being the case, it remains important for us to understand these views and how they developed through time to set the stage for the analysis of Smith's writings. The purpose of the present sub-section is not to evaluate each of the views in a favorable or unfavorable light, but rather to present a brief outline of the arguments across time in the question of Smith's positive and normative elements. This will serve to give a broader contextualization of the subject at hand.

Having said this, two primary trends of interpretation on Smith within Political Economy can be seen to permeate the literature across time (Fitzgibbons, 1997), these being a rather "unscientific" view of Smith in the XIXth century, and a "scientific" (mostly positive) Smith during the second half of the XXth century.

3.1.1. Adam Smith and Early Political Economists

When looking at the inception of the "scientific" enterprises within the discipline of Political Economy, it becomes evident that some of the major authors of the XIXth century, although praising Smith for having introduced the world to the first comprehensive work of the discipline, also condemned him for a purported lack of "scientificity".

Taking Nassau Senior as an example, despite his views on Adam Smith being overall positive, claiming him to be superior "perhaps to every writer since the times of Aristotle, in the extent and accuracy of his knowledge" (Senior, 1852, p. 5), he also viewed him as a major example of the "art" of Political Economy. As he puts it, Smith's major concerns centered around two main objectives: providing a plentiful revenue or subsistence for the people; and supplying the state with sufficient revenue for the public service (ibid.). Consequently, for him, Smith strayed off in opting to see Political Economy mainly as a way towards the increase of welfare rather than for the study of wealth; that is, he saw Smith's version of Political Economy as encapsulating the "art", and not the "science." In his own words when describing Adam Smith, "The principal purpose of his work was to show the erroneousness of the means by which political economists had proposed to attain these two great objects." (Senior, 1852, pp. 22-23), rather than to discover "the general laws which regulate the production, accumulation, and distribution of wealth" (Senior, 1852, p. 27).

Despite looking at Smith's contributions as primarily a form of the "art" and not the "science" of Political Economy, Senior gives credit to Smith in the exposition of his I and II books of the WN, those concerning *the Causes of Improvement in the productive Powers of Labour* (I) and *the Nature, Accumulation, and Employment of Stock* (II). He accounts both as incorporating forms of "abstractions" (Senior, 1852, p. 23) and as being concerned with the nature of wealth rather than welfare.

Regarding the book V of the WN, Senior terms it as "a treatise on the art of government" (ibid.) and adds that it might have been better if it had been published as a separate work altogether. The apparent disapproval of the inclusion of Book V in the WN surely had to do with Senior's concerns surrounding the confusion between the "art" and the "science" of Political Economy, stating that Adam Smith furthered the confusion and led to a malpractice of Political Economy as an "art" (Senior, 1852, p. 24), thus contributing to the retardation of the field (Senior, 1852, p. 33).

Senior, hence, had a multivariate lens through which to interpret Smith's Political Economy. Although emphasizing his role in advancing the discipline's progression, he also saw it as advancing a dangerous confusion between its aims and scope. Such culminated in a broadly "unscientific" reading of Smith, repeated across thinkers from the XIX century.

Despite most criticisms stemming from considering Smith practicing the "art", others denounced the role of "Nature" in Smith's thinking. As enunciated by Alfred Marshall, Smith "had not quite got rid of the confusion prevalent in his time between the laws of economic science and the ethical precepts of conformity to nature." (Marshall, 1927, p. 615).

This introduces us to the bulk of the contentions of earlier Political Economists with Smith, that of his apparent mixture between his "naturalism" and his works (Hanley, 2009). As stated, Smith cannot be disassociated with the time and place he was raised in, especially with the Scottish Enlightenment. This led him to be raised amid discussions surrounding the ties between the "natural law", "human nature", and morality, particularly prevalent after Locke's publication of the *Two Treatises of Government* (1689) and *An Essay Concerning Human Understanding* (1689) in the late XVII century (Cremaschi, 1987).

To put it briefly, a trend emerged among the authors of the time, linking questions of nature with questions of moral behavior. In admitting the existence of "natural" processes outside of the human sphere, they saw "nature" as a guiding principle in one's actions (Campbell, 1971). This does not mean they adhered to a deterministic-like view of human behavior since they admitted the possibility of resisting the "natural" tendencies. However, they seemed to have highlighted those tendencies' role in one's actions, often presenting them through moral lenses. Hutcheson and Shaftesbury, for example, both appraised the actions that best-suited nature's designs (Kupperman, 1985). Similarly, despite disagreeing with both regarding theories of morality (with more emphasis on the empirical side of the study of morality), Hume also embraced the belief that behaviors were shaped by natural processes (Smith, 2016).

In the same vein, Adam Smith also exhibited traits of linking together the concepts of nature with morality, often exalting objectives of "self-preservation and the propagation of the species" (Campbell, 1971, p. 75) that Nature has endowed to us, as will be further developed.

These ties between Nature and morality very much translate the troubles Political Economists had with Smith amid the art/science debate. In assuming a naturalistic view of morality, it could be argued (as Senior did), that Smith had trouble distinguishing between the two strands of Political Economy, thus resulting in the common view of Smith as infusing value judgments in his work.

However, with the formalization of the positive/normative debate, Smith's readings took a turn in the opposite direction, from denouncements of "unscientific" to claims of Smith's "scientific" enterprises.

3.1.2. Adam Smith in the XXth century

If in the XIX century, Smith had been discarded due to his moral tendencies and kept outside of the "science" of Political Economy, in the XX century, various authors sought to resolve the apparent inconsistency present within Smith between his moral and scientific aspects. Bitterman (1940) and Reisman (1976) both connected Smith's primary works (WN and TMS) to predominantly "scientific" and even, to some extent, "positive" lenses (Fitzgibbons, 1979). In response, another trend of interpretation surged, taking a view more closely related to a "normative" perspective of Smith, encapsulated by authors like Lindgren (1969) and Skinner (1979).

The question surrounding the apparent inconsistencies between Smith's TMS and WN had remained a highly contested topic ever since the beginning of the XX century, culminating in Viner's position that the WN stood as a "better book because of its partial breach with the Theory of Moral Sentiments", with said breach being in the abandonment of what he terms "the absolutism, the rigidity, the romanticism" of TMS in its methods of analysis, assumptions, and conclusions (Viner, 1927, 201). However, as pointed out by Fitzgibbons (1979), Viner largely left the philosophical impetus of Smith unexplored, opening the space for others to later delve into the philosophical framework in Smith's writings, which, in turn, sprung up the first major "scientific" claims about Adam Smith.

In a two-part essay entitled *Adam Smith's Empiricism and the Law of Nature* (1940), Henry Bitterman sought to integrate the apparent metaphysical character of TMS claimed during the XIX century (Rae, 1834) with the more descriptive and scientific side of the WN. Paying close attention to the relationship between Smith's and Hume's ideas, he argued that, both in the TMS and the WN, Smith was attempting to follow Hume's

inductive model and, more broadly, Hume's attempt at creating a "science of man"¹⁰, usually seen as being modeled after Newton's method of analysis and synthesis on the then called "natural philosophy" (Stroud, 1977). Setting aside contemporary discussions on whether Hume followed such path (Demeter, 2016; Schliesser and Demeter, 2024), Newton inspired a whole generation of academics.

Being regarded as the "hero of the Enlightenment" (Berry, 2006), Newton's formula of explaining a full range of natural phenomena through a few simple principles led Smith and many others to be educated in an academic setting keen on making Newton's suggestion true (ibid.). Bitterman thus follows by claiming that not only was Smith methodologically empirical, but also that metaphysics, or a priori knowledge in general, were not relevant (and even condemned) by Smith, and that TMS did not diverge from a "scientific" goal like that of WN. According to Bitterman and others (Campbell, 1971), Smith was not only scientific but also favored a modern way of looking at Economics, with his main objectives being that of discovering valid generalizations, akin to laws, surrounding the causes of moral decisions (TMS), and the causes of wealth (WN).

This line of reasoning led to the popularization of the thought of Smith as "scientific". By focusing on the similarities between Smith and Hume's attempt at applying Newton's method to moral philosophy, various academics crowned Smith with the achievement of applying "the experimental method to the problem of economics and ethics and so to formulate valid 'systems'" (Bitterman, 1940, p. 507). This did not mean, however, that they did not recognize normative elements in Smith. However, these were usually denounced as a "weakness" (Bitterman, 1940, p. 507), being discarded as a logical inconsistency in the face of a primary objective for "positivistic" and empiricist methods in Smith.

While some drew parallels between Smith's visions of science with "positive" reasoning, others went on to highlight normative elements found in his works, arguing instead that the main objectives of Smith were those of prescribing (of the "ought"), and not describing. Among these scholars, Skinner distinguished himself. In a 1979 paper, Skinner, although agreeing with Bitterman and the others that Smith attempted to emulate

¹⁰ Hume's "science of man" sought to develop an empirical study of human nature, through observation and experience, akin to the methods of natural sciences, and ultimately argued human behavior to be primarily shaped by custom and habit rather than rational deduction. For more see Schilesser (2002), Chibeni (2012), and Berry (2018).

Hume's and Newton's aspirations, focused on the role Smith gave to imagination in the whole scope of philosophical or scientific inquiry.

Skinner argued that Smith viewed constructs of scientific inquiry as responding to mainly psychological elements and that Smith was well aware of the unattainable nature of truth in scientific inquiry (Skinner, 2001). An underlying consequence of this logic was that objectivity never left the status of an "ideal", thus being unattainable, and leading Skinner even to draw some parallels with the then-recent developments of Thomas Kuhn in the philosophy of science, namely the idea of the scientific paradigms (Skinner, 1979). He thus concluded the interpretations of a "positive" Smith to stray from the reality of Smith's writings, which, according to him, represented a "far cry from... 'new' science of political economy" (Skinner, 1979, p. 116).

The question surrounding Smith's positive or normative elements thus remains a topic for debate. With the autonomization of political economy, thinkers began by shunning Smith for confounding questions of art with questions of science or for being guilty of mixing thoughts of moral philosophy in his political economy. Despite later being reinterpreted with a "scientific" lens, such was done with the strict dichotomy between positive and normative economics as a background, leading scholars to either highlight the former or the latter aspects in his writings.

However, much like Putnam condemned the persistence of the strict dichotomization within Economics, one should also be aware of how said dichotomization may affect the readings in Smith. Consequently, the next and final section of the thesis will seek to outline the main lines of continuity between the three main works mentioned here (HA, TMS, and WN). This will enable us to better grasp how Smith uses normative and positive elements in his writings and further the argument that intermixing them is essential to Smith's thought.

3.2. The History of Astronomy

The History of Astronomy is a posthumously published essay (1795)¹¹ by Adam Smith that explores topics surrounding the nature of philosophy, science, and the building of

¹¹ It was published among a variety of other essays in a book titled *Essays on Philosophical Subjects*. The text residing in it is not final, with Smith himself, in a letter to Hume, affirming to "begin to suspect that there is more refinement than solidity in some parts of it" (quoted in Longuet-Higgins, 1992). The original editors of HA further warned that "The Author [Adam Smith], at the end of this Essay, left some Notes and Memorandums, from which it appears, that he considered this last part of his History of Astronomy as imperfect, and needing several additions." (Black and Hutton, 1795, p. 105). This "last part" refers to the

theories (Diamond, 1986; Berry, 2006; Fitzgibbons, 1997; Skinner, 2001; Kim, 2017). Throughout it, Smith reflects on socio-psychological elements that nurture human sentiments for the search of knowledge. By analyzing it, a broader understanding of existing connections between Smith and the current positive-normative debate can be consequently revealed.

3.2.1. The Triad of HA: Wonder, Surprise, and Admiration

Although commonly referred to as *The History of Astronomy*, the essay's title is *The Principles which lead and direct Philosophical enquiries; as illustrated by The History of Astronomy*. While a greater part of the essay deals with the development of astronomical knowledge throughout the ages, such section stands merely as an illustrative sketch of a broader goal of Smith in the essay, that of discovering the nature and causes of three sentiments: Wonder; Surprise; Admiration¹².

A key argument advanced in the essay is that such sentiments are the forces behind philosophical or scientific enterprises. When it comes to Wonder, Smith defines it as pertaining to phenomena of which we have little to no knowledge. Surprise, that pertaining to things which, although we see often, we least expect to meet with. Admiration, to things we have seen both often and of which we have a feeling of recurrence, meaning we expect to see it in the future. Smith claims the first to be excited by "What is new and singular" (Smith, 1795, p. 33), the second to be excited by "what is unexpected" (ibid.), and the third by "what is great or beautiful" (ibid.).

To better illustrate how Smith thought these sentiments to be the drivers of the development of theories, let us imagine we are faced with an object for which we cannot find an explanation. Upon observing the object, Smith postulated that a disconnect would develop in our mind concerning the nature of what is being observed. Considering its foreign nature, our mind's expectations fail to account for it, thus creating a mental state akin to that of pain and generating "a strong passion, into the most violent and convulsive emotions, such as sometimes cause immediate death" (Smith, 1795, p. 34).

Setting aside the hyperbolic character of Smith's description, it is clear that he aligns the feelings of unexpectedness upon the observance of something new to those of

discussion surrounding Newton's contributions to the advancement of the History of Astronomy, which will later be discussed.

¹² "It is the design of this essay to consider particularly the nature and causes of each of these sentiments." (Smith, 1795, p. 34).

pain, which, according to him, the human nature is compelled to "resist" and "recoil" (Smith, 1795, p. 36), thus constituting forms of "disagreeable passions". This "pain" leads to the springing up of feelings of Surprise and Wonder, respectively, with Surprise being the first to arise upon observing the object behind the disturbance of the mind.

From the Surprise one feels, one's mind starts to seek patterns or elements of familiarity capable of connecting the foreign observances with those already known to get rid of the pain associated with it and achieve a state of mental ease. Our minds seek "to arrange and methodise all its ideas" and reduce them to a common general principle apt for our understanding (Smith, 1795, p. 38). However, if presented with something new and singular, such continuity is disturbed, hence exciting the feeling of Wonder within us, leading man to strive to find something that resembles the qualities of said new object.

Being confronted with something unexpected creates a "gap" in our understanding, leading one to Wonder how the new and singular came to be in the first place, and hence to attempt to "fill the gap". This filling the "gap" is, for Smith, the bulk of the nature of the sentiment of Wonder. Thus, for Wonder to vanish, and to the same extent, for the pain to vanish, one needs to discover a connecting chain of intermediate events, or what is commonly viewed as simply causal chains.

Smith gives the example of a game of cards wherein one player is unfamiliar with the rules (Smith, 1795, p. 44). Although, at first, the game may seem strange to that player but not to others, with successive observation of the game, the player will inevitably come to gain a better understanding of it. This curious example embodies two interesting points brought by Smith: that these sentiments vary greatly across individuals and that successive repetition, observation, and familiarity stand as tools for getting rid of the "gap".

Regarding the first one, it encapsulates an eminently psychological and social element in Smith's HA (Berry, 2006; Skinner, 2001). In being aware that the differences in upbringing, social status, or cultures all led to different social realities, Smith understood that individuals' grasp of knowledge had necessarily to differ, meaning that what would seem obvious to some would appear otherworldly to others, much like in the card game analogy. This introduces a social character to the, until now, primarily psychological character of Smith's analysis of the sentiments and leads him to separate philosophers from the others, with the former holding the task of looking "for a chain of

invisible objects to join together two events that occur in an order familiar to all the world" (Smith, 1795, p. 45).

The second aspect leads us toward the familiarity theory, which states that an event is explained when classified or compared to something familiar (Campbell, 1971). In Adam Smith, this theory appears coupled with a requisite of an event being explained through a general law, which needs to be deduced from some established empirical hypothesis that states conditions for an event to take place. Regardless, for Smith, what is familiar is naturally accepted by humans, with the mind itself taking "pleasure in observing the resemblances that are discoverable betwixt different objects" (Smith, 1795, p. 37), making it that "we show ourselves to be more acquainted with it, and to have a more thorough insight into its nature" (Smith, 1795, p. 39). Consequently, Smith posits that man has a natural tendency towards classifying and relating objects in a familiarity sequence, which, through a process of constant repetition, leads our minds to reach a "state of tranquility", defined as the capacity one has to anticipate the occurrence of events in the future (associated with pleasure)¹³.

While Smith endeavors to dedicate specific sections to the nature of Surprise and Wonder, Admiration is left somewhat neglected in the whole essay. Nonetheless, whereas both Surprise and Wonder are associated with feelings of unpleasantness or pain, Admiration stands as the result of "filling the gap," encapsulating the "ease" of the mind upon finding a sufficient explanation for the matter unknown to it. Admiration can thus be represented as the absence of those troubling sentiments.

3.2.2. Philosophical and Scientific enquiry

Having digressed into the role each of these have in the search for knowledge, Smith went on to define philosophy as "representing the invisible chains which bind together all these disjointed objects" or to "introduce order into this chaos of jarring and discordant appearances" (Smith, 1795, pp. 45-46). In other words, philosophers were enshrined with the task of solving the "gaps" presented to our minds through the sentiments of Surprise and Wonder, sentiments which, in disrupting the normal flow of the imagination, make the goal of the philosophers that of "soothing the imagination" (Smith, 1795, p. 46). Nevertheless, among such sentiments, Wonder was pinpointed as central in developing

¹³ According to Campbell (1971), this suggests that Smith was not attempting to make claims regarding the nature of the "truth" of scientific explanations but rather simply attempting to understand why scientific theories were explanatory, in contradiction to Skinner's vision (1979).

philosophy. For, as Smith asserted: "Wonder, ... is the first principle which prompts mankind to study of Philosophy" (Smith, 1795, p. 51).

By defining philosophy as such, we again are called to ascribe to Smith and the whole of HA as an eminently psychological inquiry, first and foremost, from which the remaining considerations upon theorizing are developed.

Apart from this psychological element, in section III of the essay, Smith quite evidently portrays a secondary, albeit influential, social element to the existence of philosophical thinking, as already pointed out. In it, Smith starts by stating that "Mankind, in the first ages of society, before the establishment of law, order, and security, have little curiosity to find out hidden chains of events which bind together the seemingly disjointed appearances of nature" (Smith, 1795, p. 48). This was due to Smith's view that a "savage", being more preoccupied with his own subsistence, could not afford the necessary leisure time for pursuing enterprises of the imagination, or to "render the theater of nature a more connected spectacle to his imagination" (Smith, 1795, p. 48). Thus, an increase in leisure can only be achieved once subsistence ceases to be precarious, which, for Smith, can only occur through law, order, and security. Only after having the material conditions of their lives adequately managed by a coordinated society could mankind be "more attentive to the appearances of nature, more observant of her smallest irregularities, and more desirous to know what is the chain which links them all together." (Smith, 1795, p. 48).

Such remarks mimic his reliance upon a broader societal context in the overall scope of his philosophy. Similarly to HA, Smith also exhibits these traits in TMS and WN, stressing the constraining nature of social context, history, and material conditions, which will be further developed in the latter sections.

Philosophy, hence, surges for Smith, as a mixture of psychological and social elements of individuals and mankind alike. However, it should be noted the existence of a conflation between philosophy and science across Smith's times.

In our times, Science and Philosophy are usually presented as diverging forms of study, with one being descriptive, explanatory, developed around causal theories, testing, and observation (science), and the other, typically concerning itself with negative, general questions of a normative character (philosophy). However, in Smith's time, such separation had yet to happen, hence the common use of both words for similar contexts (Campbell, 1971). Despite this, Smith appears to use the terms in somewhat different manners across his writings, with "philosophy" usually referring to more abstract and theoretical reasonings and "science" to more practical issues. This difference reflected

that Smith was somewhat conscious of a distinction between the terms, usually using "science" for branches such as physics or natural philosophy and "philosophy" for ethics, moral philosophy, and logic (ibid.).

3.2.3. Smith and Newtonianism

All in all, despite Smith's difference in treatment between science and philosophy, he argued that it was possible to apply the same method for both natural and moral philosophy, adhering to some form of Newtonianism (Longuet-Higgins, 1992; Fitzgibbons, 1997; Schliesser, 2005; Fiori, 2012; Montes, 2013).

In some of the notes found of Smith's lectures, *The Lectures on Rhetoric and Belles Lettres* (1963)¹⁴, in talking of Newton's method, it is said to be "more philosophical" and "vastly more ingenious", across "every science, whether of morals or natural philosophy" (Smith, 1963, p. 140) and, again in the HA, Newton's contributions are characterized as "the greatest and most admirable improvement that was ever made in philosophy", upon the discovery of the general principle of gravity to connect all the disjointed phenomenon of the skies (Smith, 1795, p. 98).

But what exactly was the "Newtonian method", as seen during the Enlightenment? Going back to Newton's *Principia* (1687) and *Opticks* (1704), we get some ideas. As is commonly known, Newton put forward the theory of gravity, which, instead of attempting to explain the causes behind the phenomenon of study (gravity), focused instead on the fact that the phenomena existed and, from thence, studied its effects, since "it is enough that gravity really exists" (quoted in Ducheyne, 2006). In other words, the cause's unknown nature does not imply a given phenomenon's inexistence, meaning we should aim at discovering its existence, not its causes.

The existence of such phenomena could only be disproved if another, more probable one was discovered since "In experimental philosophy, propositions gathered from phenomena by induction should be considered either exactly or very nearly true notwithstanding any contrary hypothesis, until yet other phenomena make such propositions either more exact or liable to exceptions" (Newton, 1687, p. 796). This in turn, made Newton's theories as open-ended (flexible, adaptable to further development),

¹⁴ Adam Smith's Lectures on Rhetoric and Belles Lettres were delivered during his time as a professor at the University of Glasgow between 1748 and 1763. Discovered in 1958 by a professor of the University of Aberdeen, and published in 1963, these lectures consist of notes taken by two of Smith's students, exploring the connections between language and thought, and highlighting how rhetoric influences both individual and societal judgments.

and not as axiomatic-deductive. As such, laws, for Newton, including "universal" like the law of gravity, can be refined in the process of successive approximation.

On how one reaches such "laws," Newton highlighted the process of induction, implying that analysis precedes synthesis since "propositions are inferred from the phenomena, and afterwards rendered general by induction" (Newton, 1687, p. 507). If any deviation from the phenomena is observed, one should employ reiterative analysis, leading to a new synthesis. Newton summarizes his method in the following terms:

"And if no Exception occur from Phenomena, the Conclusion may be pronounced generally. But if at any time afterwards any Exception shall occur from Experiments, it may then begin to be pronounced with such Exceptions as occur. By this way of Analysis we may proceed . . . in general, from Effects to their Causes, and from particular Causes to more general ones, till Argument end in the most general. This is the Method of Analysis: And the Synthesis consists in assuming the Causes discover'd and establish'd as Principles, and by them explaining the Phenomena proceeding from them, and proving the Explanations." (Newton, 1704, p. 404–5).

3.2.4. Smith's views on theories

It has been widely acknowledged that Newton significantly influenced the formation of Smith's ideas (Longuet-Higgins, 1992; Fitzgibbons, 1997; Schliesser, 2005; Fiori, 2012; Montes, 2013). However, it is now important to understand how such ideas ended up reflected in his writings, with special attention to Section IV of HA, which concerns the tracing of the evolution of the theories developed in the field of Astronomy.

Having the initial sentiments of Surprise and Wonder as the backdrops to his analysis, Smith delves into an explanation of how the "gap" of knowledge in Astronomy was filled until his age.

In considering celestial appearances as universal objects of curiosity to mankind, Smith postulates that theories' primary objective is to make the observed phenomena more uniform to the mind. In short, he describes theories in Astronomy as starting to develop from empirical observations. When confronted with some celestial object that appears to us as less constant and uniform, this creates "unease" in the imagination or, in other words, provokes in us the feeling of surprise previously described. Theories, consequently, are described as having the primary role of being "capable of connecting together, in the imagination, the grandest and the most seemingly disjointed appearances in the heaven" (Smith, 1795, pp. 55-56). It is in this aim of "connecting together... disjointed appearances" that a theory gains its plausibility. The more a theory seems to solve the unease of the mind, the more plausible it will seem.

In the process of solving the "gap", Smith thought that people enhanced their observational skills. Due to the pain associated with the feeling of Surprise, one would be driven to make more attentive observations in hopes of restoring the "state of tranquility". This, however, had both a positive and a negative effect. On the one hand, what was first perceived as unknown is now explained. On the other hand, with the increased attentiveness of observations, further irregularities are afterward identified. Consequently, theories go through a constant process of adaptation to try and account for said irregularities (Fiori, 2012), much like it happens in Newton's accounts of theories in natural philosophy.

When discussing Aristotle's system of astronomy, Smith remarks on the effects that the irregularities had on it:

This system had now become as intricate and complex as those appearances themselves, which it had been invented to render uniform and coherent. The imagination, therefore, found itself but little relieved from the embarrassment, into which those appearances had thrown it, by so perplexed an account of things (Smith, 1795, p. 59).

With the discovery of irregularities, the leading systems seek to extend themselves for them to be accounted. However, as a result, they become too convoluted, bringing "embarrassment" into the imagination. New systems are then prompted up in attempts to ease the mind of the complexities furnished by the previous ones. For that to happen, two elements are highlighted as necessary to the systems: Simplicity and generality (in line with the Newtonian thinking).

In describing a "system", Smith postulates that, throughout time, systems evolve towards greater simplicity and generality, comparing it to an "imaginary machine" which is "invented to connect together in the fancy those different movements and effects which are already in reality performed" (Smith, 1795, p. 66). *These "machines"* undergo a process of refinement, according to which the first ones prove themselves too complex, and hence incapable of accounting for new phenomena. Thus, new "artists" *go on to* discover with "fewer wheels, with fewer principles of motion, than had originally been employed, the same effects" (ibid.), of binding together all the discordant phenomena.

When an established system then seeks to account for newly observed irregularities, they have, in keeping with the analogy of a machine, to add "another little wheel... which still more interrupts the uniformity of the system" (ibid.). In essence, what Smith claims is akin to the open-ended nature of Newton's theorizing (Schliesser, 2005; Montes, 2008) since systems can never account for everything but constantly need adaptation towards new (confounding) observations. In speaking of the system of Eccentric Spheres, Smith consequently claims that, "this imaginary machine, though, perhaps, more simple... than the Fifty-six Planetary Spheres of Aristotle, was still too intricate and complex for the imagination to rest in it with complete tranquility and satisfaction" (Smith, 1795, p. 67).

In short, across the HA, science, systems, and theories are presented as a cumulative result of various processes, with the starting point being observations. In discovering irregularities, Smith considers that people are caught in a state of uneasiness towards the imagination due to the incapacity of linking the observed phenomena in the imagination. Consequently, efforts are made to extend the governing systems of thought of the time by adding new "wheels" to the "machine" for the provision of an explanation. However, this often leads to overly complex systems, increasing mental unease, which, in turn, opens up space for new systems to surge, systems that will aim towards providing a more simple, coherent, and uniform explanation.

3.2.5. Observations

Nonetheless, as one can probably notice from what has been developed so far, no theory can perfectly account for everything. Irregularities are presented almost as an inevitability in Smith, and with new systems in place, previously unnoticed phenomena are now the object of observation, hence leading to further irregularities and perpetuating the cycle.

Even though no theory is ever final or perfect, Smith believes that newer systems generally provide a better account of irregularities than their predecessors, with observation playing a pivotal role. When discussing Tycho Brache's contributions, Smith says that "All these observations... suggested to Tycho the idea of a new hypothesis" (Smith, 1795, p. 81). Tycho came to the elaboration of a new hypothesis employing observation, highlighting their role as the starting point in forming systems of thought, from which further deductions are made until they reach a general character.

Observations, however, do not simply matter at the beginning of a theory but also at the end, namely in the testability of a theory. When an irregularity is explained through the deductions of a new theory, Smith highlights observations as having "demonstrated, more evidently than had been done" (Smith, 1795, p. 83) the dispelling of the irregularities.

A good example in HA can be seen in his explanation of Galileo's contributions and his telescope use. Through those observations, Smith credits Galileo with demonstrating "what Copernicus had only conjectured" regarding the orbits of Venus and Mars and having "destroyed the system of Ptolemy" (Smith, 1795, p. 84). Furthermore, when arguing why Newton's system stood as the best account for the linking of disjointed phenomena, Smith more than once brings up observations as having confirmed Newton's system, with particular attention given to "The observations of Astronomers at Lapland and Peru", and even adding a footnote after the writing of the essay remarking the return of a comet, in confirmation of a prediction made from Newton's theorizing (Smith, 1795, pp. 101 and 103).

Observations are thus, for Smith, indispensable both at the start and the end of theories and systems. Not only is it from them that one starts noticing irregularities and consequently alters a given system or even proposes an entirely different system, but it is also in them that one reaches the point of confirmation of the deductions made from the theory.

3.2.6. Positive and Normative Elements

From the analysis of Smith's views of theories, the first thing that becomes apparent is a substantial similarity in terms of methods with that of the typical positivistic outlook. Just as positivism evolved, having in mind the development of general, simple, and comprehensive theories, with a strong emphasis on the role of observations and the predictive capacity of theories, so too did Smith highlight these elements as essential for the accounting of irregularities and the advancement of scientific knowledge. Upon such realization, some scholars, as pointed out above, used these commonalities to stress broader parallels between Smith and positivism (Bitterman, 1940; Reisman, 1976), with some like Campbell (1971, p. 43) even asserting that Smith, much like Popper, saw science as being formed through imaginative and bold conjectures controlled through systematic testing.

However, Smith's HA contains a much deeper socio-psychological analysis of systems and theories than a simple positivistic outlook (Lindgren, 1969; Skinner, 1979 and 2001). It is, above all, an exploration into the effects of three main sentiments,

Surprise, Wonder, and Admiration, with the first two being seen as responsible to the confusion or "unease" of the mind, in face of unaccounted phenomena. These sentiments are what act as triggers for the human curiosity and the desire for the creation of explanations that bring coherence to the imagination. In other words, these sentiments are the drivers behind the formation of theories and systems. Theories and systems end up being presented as having the primary goal of mitigating the uneasiness caused by Surprise and Wonder, and of restoring the "state of tranquility" that Smith talks about in discussing the sentiment of Admiration.

Moreover, throughout the HA, such sentiments are permeated by normative characteristics. According to Smith, Surprise, and Wonder, for one part, provoke feelings akin to pain in men, while Admiration provokes pleasure. The "uneasiness" the mind experiences only arises because of the pain associated with Surprise and Wonder. Hence, the positive elements of HA result from an approach aiming at solving a primarily normative question of dispelling the feelings of "pain".

Smith emphasizes the emotional relief that successful theories provide, adding a strong normative dimension to his analysis. He argues that theories do more than merely explain phenomena; they also offer psychological comfort by resolving the mental unease that arises from the unknown. This concept is evident in his discussion of various astronomical systems, where the failure of older theories to satisfy the imagination fully spurred the search for newer, simpler, and more comprehensive models.

A theory's value thus lies in its ability to "ease the imagination" by connecting seemingly disjointed phenomena. Theories are not only judged on their explanatory power or their empirical aptness but also on their capacity to reduce discomfort. The more effectively a theory can account for irregularities and bring coherence to the imagination, the more convincing it becomes. This dual role of theories in advancing intellectual understanding and restoring psychological comfort illustrates the interplay between positive and normative concerns central to Smith's views on Science and method.

Thus, in History of Astronomy, Smith weaves together the positive aspects of scientific inquiry - rooted in observation and explanation - with a recognition of the normative forces at play.

It is important to remember that the HA, on its own, focuses on the area of "natural philosophy" and not "moral philosophy", with its main exemplification being done through the discipline of astronomy. As a result, a link needs to be sought between what was previously sketched as Smith's views on HA about methods, theories, and systems

and his subsequent, more famous, works: *The Theory of Moral Sentiments* and *The Wealth of Nations*. Doing so will enable a better understanding of the extent to which the intertwining of normative and positive elements is present throughout Smith's work.

3.3. The Theory of Moral Sentiments

First published in 1759, *The Theory of Moral Sentiments* was reportedly seen by Smith himself as "a much superior work to [*WN*]" (quoted in Ross, 1995) and was revised six times until it reached its final form in 1790. Intended as a contribution to the understanding of the principles of morals, or in understanding "how, and by what means does it come to pass, that the mind prefers one tenour of conduct to another" (Smith, 1759, p. 315) TMS stands as an attempt at describing moral sentiments which arise and are sustained within human societies (Campbell, 2013).

Much like with the readings on HA, there seems to be a dichotomization regarding the purpose of TMS among the scholars. Subject to many interpretations, some acknowledge the presence of an eminently empirical purpose in TMS (Bitterman, 1940; Bryson, 1968; Raphael, 1985; Blaug, 1992; Heath, 1995), while others take it as mainly a critique to other alternative systems of morality, and or, of moral endorsements (Griswold, 1998; Otteson, 2002; Hanley, 2009).

However, as will be attempted to show, TMS seems to follow the trend of intertwining these objectives and making them necessary to coexist for the development of the argument, in line with how "theories" are described in HA. Thus, it points towards an interconnectedness in Smith's works regarding the need for having both positive and normative elements.

3.3.1. Methods

To start off, it is important to look at how Smith constructs a "Theory of moral sentiments", and the methods implicitly exhibited. Contemporaries of Smith, like James Woodrow (a student of his) considered TMS to be "a very ingenious attempt to account for the principal phenomena in the moral world from... one general principle like that of gravity in the natural world" (quoted in Diamond, 1986). If his assertion is correct, this would hint at an attempt from Smith to apply the Newtonian method exhibited in HA on the sphere of moral philosophy.

In seeking to discover the causes behind the establishment of principles of approbation and disapprobation, Smith argues that induction, experience, and observation hold a key role, for "The general maxims of morality are formed, like all other general maxims, from experience and induction" (Smith, 1795, p. 376). Applying this to systems of morality, Smith considers that by observing particular cases, man goes on to approve or disapprove of given acts according to what pleases or displeases their moral faculties. Only afterward are these approbations or disapprobation made into general principles through induction.

Similarly to HA, Smith highlights observation as the starting point, from which one derives general principles from particulars (using induction). Moreover, he attributes to the "first perceptions", that is, to the first sentiments one feels upon observation, the foundational stone of the systems of morality. In observing a given behavior in society, we either feel sentiments that present to us as "agreeable or disagreeable to the mind" (Smith, 1759, p. 376). These, he posits can only be derived through the "immediate sense and feeling". First perceptions hence stand as a connecting principle between the behaviors being observed and the use of reason in induction, since reason, on its own, "cannot render any particular object either agreeable or disagreeable" (ibid.).

Once these general moral principles have been formed through induction, they can be applied deductively to assess new situations. For example, suppose one general principle is that acts that benefit society are morally good. In that case, this principle can then be used deductively to evaluate the morality of a new action based on whether it benefits society. Thus, Smith's method also involves deduction, where general moral principles guide the evaluation of specific behaviors. This dual process of moving from particulars to general principles and then applying those principles to new situations illustrates the interplay between induction and deduction in Smith's moral philosophy.

3.3.2. Pleasure and pain

In addition to this, the theme surrounding the sense of pleasure and pain is, once more, brought to the forefront of the discussion as a guiding force for agreeable or disagreeable sentiments. If in HA, the pain associated with Surprise and Wonder led to the efforts for the development of theories in hopes of reaching the "state of tranquility", associated with pleasure, in TMS, pain and pleasure are presented as "the great objects of desire and aversion" (ibid.), with pain standing as "a more pungent sensation than pleasure, and our

sympathy with pain, (...), is generally a more lively and distinct perception than our sympathy with pleasure" (Smith, 1759, p. 56).

Pain and pleasure are central to forming one's principles of morality and judgments, considering the favorable or unfavorable nature of given behaviors. Upon seeing or experiencing certain behaviors, the first perceptions will inform one accordingly with the senses of pain and pleasure, rendering the former as agreeable, and the latter as disagreeable.

From the pain and the pleasure one feels, the initial precepts are then formed and are afterward made into general rules via the process of induction. Once such rules are in place in each society, man will accept them as though they were true. He will, consequently, feel them to be true since "Our continual observations upon the conduct of others, insensibly lead us to form to ourselves certain general rules concerning what is fit and proper either to be done or to be avoided" (Smith, 1759, p. 183).

3.3.3. Imagination and the impartial spectator

This happens due to our faculty of imagination (Skinner, 1979 and 2001), that is, due to psychological elements, namely that of being able to "enter into" the situation of others, to feel sympathetic emotions, and conversely for the social desire one has for approval. When feeling pain, man is naturally endowed with a desire to get rid of it. Hence, if a situation arises wherein one's behavior stands opposite to that of the general rules of the community, one's mind will be plagued with feelings of "despair and distraction", feelings that Smith remarks to haunt "the guilty", allowing them "neither quiet nor repose" (Smith, 1759, p. 142).

The everlasting effects of pain on the mind consequently lead to the desire in men to conform to the rules in hopes of achieving or maintaining a state of pleasure. This is a result of the presence, in the imagination of the so-famously termed "impartial spectator", seen as representing the common consensus of the attitudes of a group, as encompassing the general rules formed within a community (Campbell, 1971). It is through the means of this imaginative element of the impartial spectator that a man, in serving others, in feeling sympathetic and exhibiting behaviors of benevolence, is able to feel pleasure, for:

when he looks backward to the motive from which he acted, and surveys it in the light in which the indifferent spectator will survey it, he still continues to enter into it, and applauds himself by sympathy with the approbation of this supposed impartial judge. In both these points of view his own conduct appears to him every way agreeable. His mind, at the thought of it, is filled with cheerfulness, serenity, and composure. He is in friendship and harmony with all mankind, and looks upon his fellow-creatures with confidence and benevolent satisfaction, secure that he has rendered himself worthy of their most favorable regards. (Smith, 1759, p. 103).

The impartial spectator, in this regard, stands as a mechanism for punishing and rewarding oneself, providing states of contentment, tranquility, and self-satisfaction when behaving per the general rules and states of agony, doubt, and uncertainty, when going against them (Smith, 1759, p. 185). In other words, the impartial spectator could be said to resemble a form of internalization of more broad societal norms (the "general rules"). It stands as a bridge between the individual and the society, informing the former which acts are worthy of approbation and which conduce to feelings of disapprobation.

Feelings of pain and pleasure, as such, arise from a complex interaction between society and their internalization, for one's reaction to a given behavior by another is informed both by the impartial spectator and by one's first reactions to it. Conversely, an individual's conduct will be informed through these processes, hence directing him toward the opinion that certain acts ought to be done over others.

With this exploration of the impartial spectator, the weight of imagination in the scope of Smith's TMS is evidenced. While the sentiment of sympathy stands central to it, when describing such sentiment, Smith always resorts to the exercise of the imagination as the driver behind such feeling, sometimes even seemingly maintaining a bigger role than sympathy (Raphael, 2007).

It is not simply that we echo the feelings we observe in others in a spontaneous manner like when we draw our legs or arms upon seeing someone else being struck (Smith, 1759, p. 14), but rather our imagination produces in us, with the impartial spectator as a reference point, those feelings of sympathy, leading to us sometimes exhibiting them without necessarily translating what is being observed, since "when we put ourselves in his case, that passion arises in our breast from the imagination, though it does not in his from the reality" (Smith, 1759, p.16).

This demonstrates once more, just as it was observed in HA, that theorizing for Smith is not merely responding to a descriptive analysis, an explanation of the "is" of the object of interest. While in HA, theories of astronomy were not merely arising as forms of description and of understanding the phenomenon of the skies, but rather primarily to ease the imagination, so too in TMS, theories of moral sentiments are not simply derived from the processes of observation, experience, and induction, but more so from internal processes of the workings of the imagination, mixed with the general rules one perceives from the surrounding community, internalized through the impartial spectator. Thence TMS, much like HA, relies heavily on a psychological element.

3.3.4. Natural instincts

Smith attributes the processes of the formation of moral judgments as being natural instincts embedded in man. Presented as "unalterable laws" (Smith, 1759, p. 170), Smith argues that "Nature, when she formed man for society, endowed him with an original desire to please, and an original aversion to offend his brethren." (Smith, 1759, p. 140). Humans may resist or go with these natural tendencies, but their actions are invariably influenced by them, with Nature exciting in man the yearning for given ends, namely those of "self-preservation, and the propagation of the species" (Smith, 1759, p. 94). "Mankind", says Smith, "are endowed with a desire of those ends, and an aversion to the contrary; with a love of life, and a dread of dissolution" (ibid.). Nature's ends similarly excite man to search for the best possible means to attain it (ibid.).

Such means are reflected through social and individual processes of the formation of moral systems since the promotion of acts deserving of approbation dispel in us the feelings of pain and thus direct us to the better of our capabilities towards the aims of preservation of the species. Natural tendencies stand as the motifs behind our aversion to pain and desire for pleasure. They are presented as the ideal (Campbell, 2013), as the goal of mankind, consequently leading man to have "a natural love for society, and desires that the union of mankind should be preserved for its own sake", for an individual "is sensible too that his own interest is connected with the prosperity of society, and that the happiness, perhaps the preservation of his existence, depends upon its preservation.", leading him to develop "an abhorrence at whatever can tend to destroy society" (Smith, 1759, p. 106). Concomitantly, so are the impartial spectator, and the imaginative processes of individuals, responding to the natural tendencies, since these are excited through the first reactions of pain and pleasure. For Smith, general rules of moral systems are aligned with a larger aim provided by Nature, presented in TMS as "final causes"¹⁵. These natural laws inform the formation of moral systems since in feeling pain and pleasure, we are abiding by the ultimate ends of preserving human society, and in coming up with and following general rules, we are advancing the overall welfare of society (and by extension of ourselves) through the imposition of a given spontaneous order to society (Alvey, 2004).

3.3.5. Irregularities or "moral corruptions"

Another point worth mentioning is the question of "irregularities" within TMS, identified with "moral corruptions". Despite Nature imbuing us with a given end, this is presented more as an ideal, than a reality (Campbell, 2013). Even if man seeks to achieve it, some will invariably deviate from it and fall into certain vices.

One of them is identified as arising from "this disposition to admire the rich and the great, and to despise or neglect persons of poor and mean condition" (Smith, 1759, p. 73), something which, "though necessary both to establish and to maintain the distinction of ranks and the order of society, is, at the same time, the great and most universal cause of the corruption of our moral sentiments." (ibid.).

Smith identifies this deviation as arising from the same natural processes of man to emulate what they see as the general rules of society. In seeing "the vices and follies of the powerful much less despised than the poverty and weakness of the innocent" (Smith, 1759, p. 74), we identify "the powerful" with being deserving of "respectful attentions of the world", and hence attach to this ideal an association with pleasure.

To attain it, two routes are then presented to us: one through educating ourselves and practicing virtue, the other by acquiring wealth and greatness (ibid.). Smith remarks that while the latter attracts more interest among fellow man, for it forces "itself upon the notice of every wandering eye" the former seems to attract "the attention of scarce any body" (ibid.).

In choosing to emulate the wealth and greatness, however, Smith warns us of its dangers. If the object of pleasure associated with the "powerful" is directed towards the mere acquisition of wealth or greatness, he remarks it to be "scarce agreeable to good morals" to "deserve our respect", due to them being "degraded by vice and folly" (Smith,

¹⁵ Smith refers to "final causes" as the purposes or ends that drive actions, contrasting it with "efficient causes" which pertain to the mechanisms or processes that bring about those outcomes. For more see Kleer (1995) and Alvey (2004).

1759, p. 75). Such is the case because of the differences in social status between those in "superior stations" and those in "middling and inferior stations". While in the latter, man find themselves constantly upon the guises of law, hence imbuing in them a respect for it, in the former "flattery and falsehood too often prevail over merit and abilities" (ibid.), leads them to feel as though they are above the law, hence being prone to disrespect it.

Given their higher social status and their "desire to be praised" (ibid.), those in superior stations mislead those in inferior stations in their objects of praiseworthiness. Instead of opting for wisdom and virtue, they rely too much on the material objectives of acquiring wealth, hence forgetting about their societal duties, such as respect for the law. Consequently, those emulating the grandeur of wealth find themselves on a counterproductive path, being forced to abandon the paths of virtue, and reaching a worse state of affairs than that which they found themselves in.

Qualities of wealth and greatness, thus, are presented as irregularities that distort the qualities of merit and virtue. Smith's exposition of these vices also highlights an inherently normative character in TMS. In going against the ends imbued in us by Nature, Smith condemns such behaviors in society while exalting the qualities of wisdom and virtue. Apart from describing how the irregularities arise in society, he ascribes to them a normatively negative judgment. The description then serves as an exposition for behaviors mankind should avoid, evidencing a prescriptive element in TMS.

3.3.6. Positive and Normative Elements

TMS presents systems of moral approbation and disapprobation as resulting from a complex interplay between individual and societal processes. At the heart of these processes lie our sentiments, observations, experiences, and the inductive reasoning that helps us navigate the moral landscape. While Smith focuses on describing how these moral systems arise within society, he does so with a blend of descriptive analysis and prescriptive, normative elements that point toward how people ought to behave.

Smith explicitly notes that his inquiry concerns not just questions of moral right but "a matter of fact" (Smith, 1759, p. 93). He aims to explain how moral systems form in society, making his approach fundamentally descriptive. Smith adopts a method akin to the one he uses in The History of Astronomy (HA), where he applies Newtonian inductive reasoning—deriving general principles from particular observations. Yet, even within this descriptive framework, Smith embeds normative implications, primarily through the guiding roles of pleasure and pain. For Smith, pleasure and pain are more than just sensations; they are moral indicators that shape our judgments. Pleasure is associated with desirable actions, and pain with those to be avoided, introducing an implicit "ought" into his moral theory. These sensations align with natural instincts, guiding individuals not merely by observation of societal norms but through an internal compass that promotes certain behaviors as right and others as wrong.

Smith emphasizes that this moral development is both individual and collective. While individuals form their judgments based on personal experience and observation of societal rules, they also rely on their imagination to put themselves in others' situations. This imaginative process generates sympathy, refined by the concept of the "impartial spectator.", an internalized figure that helps individuals in assessing their actions against broader societal expectations, blending personal reflection with social influence.

Moreover, Smith underscores the prescriptive nature of his theory through the role of natural instincts. He argues that Nature has endowed humans with instincts such as self-preservation, guiding us to moral choices that benefit individuals and society. Smith infuses his descriptive account of moral systems with normative guidance by linking pleasure with moral desirability and pain with moral aversion. People thus "ought" to follow these natural instincts because they lead to personal well-being and societal harmony.

However, Smith also acknowledges that moral development is not always straightforward. He discusses "irregularities" or "moral corruptions" that can distort human behavior. These corruptions often arise from pursuing wealth, status, and social approval, leading individuals to prioritize external rewards over genuine virtue. Smith critiques this tendency, warning that admiration for superficial success can derail moral judgment. This critique calls to return to natural moral instincts and resist the lure of external temptations.

TMS thus weaves descriptive and prescriptive elements to offer a nuanced understanding of moral development. Smith explains how systems of approbation and disapprobation arise from the interaction of individual experiences, societal influences, and natural instincts. At the same time, he suggests how people ought to live, guided by natural principles of pleasure, pain, and sympathy. Through this blend of observation and prescription, Smith's moral philosophy offers a vision of human life that is rooted in nature while shaped by society.

3.4. The Wealth of Nations

Considered by many as Smith's magnum opus, *An Inquiry into the Nature and Causes of the Wealth of Nations*, or Wealth of Nations (WN) for short, was first published in 1776. It left an immense legacy in the next centuries, with modern economists such as Paul Samuelson inferring it to be "a complete and valuable theoretical model" (Samuelson, 1977, p. 42), and others like Stigler lauding it as "a stupendous palace erected upon the granite of self-interest" (Stigler, 1982, p.136). Whether such remarks prove in accordance with the text or not, they certainly permeated an entire generation of economists with Jevons vision of Smith as the "father of the science" of economics and even of having employed mathematics in WN (Jevons, 1871, p. 5). Subsequently, WN has been, in the last decades, covered in a mist of mostly positivistic traits, as observed by a variety of scholars (Skinner, 1979; Fitzgibbons, 1997; Montes, 2003).

However, as has been already discussed, this view has not always been the prevailing interpretation, with pre-marginalist authors denouncing Smith for being "metaphysical" and shunning him as "non-scientific" (especially Nassau Senior). The evolution of Smith as an economist in the context of the positive-normative debate is thus filled with disagreements, something unexpected given the significant differences within the text itself, revealing differing objectives of the analysis. While the first two exhibit more descriptive tendencies for the accounting of the workings of the mechanisms of the economy, like the division of labor, the origins of wealth, or the role of capital in promoting the creation of wealth, the last book (V), provides a more prescriptive aspect to it, discussing the responsibilities of the government (Skinner, 1979; Blaug, 1992).

As Campbell (1971) pointed out, this mixture in Smith led to accusations in Smith of confusing the normative with the positive, echoing the positions of thinkers like Senior in the XIX century. Nonetheless, as has been done in the analysis of both HA and TMS, an attempt will be made at highlighting that such does not constitute a "confusion", but rather that these elements are eminently connected, and need to coexist for the broader understanding of Smith's aims with WN.

3.4.1. Induction and deduction

With the purported objective of explaining, in the first four books, "in what has consisted the revenue of the great body of the people, or what has been the nature of those funds" (Smith, 1776, p. 15), Smith sketches the economy as a sort of system guided by regular

patterns stemming from the individual behaviors of people interacting in markets, without interference from outside authorities (Krueger, 2003). In doing so, a descriptive element invariably arises, and, similarly to HA and TMS, the uses of particulars for the induction of generals are exhibited, in hopes of illustrating the "nature" and "causes" of Wealth.

Taking the famous passage of Smith that "It is not from the benevolence of the butcher, the brewer, or the baker that we expect our dinner, but from their regard to their own interest" (Smith, 1776, p. 30), Smith presents us with a particular illustration to demonstrate to his readers the (general) motivations and practices behind economic behavior. Inductively, Smith begins with this specific example of individuals acting in their own self-interest (the butcher, brewer, and baker) and generalizes that self-interest drives market interactions and cooperation.

From this inductive reasoning, Smith then shifts to deduction: based on the general principle that self-interest motivates human behavior, he deduces broader economic tendencies such as the human propensity to barter and exchange, and the desire to improve one's condition (Campbell, 1971; Berry, 2006). Thus, Smith moves from specific observations to general principles (induction) and then applies those principles to explain specific economic behaviors (deduction).

These human propensities are presented as part of "human nature" (Smith, 1776, p. 29), arising due to our "need of the co-operation and assistance of great multitudes" (Smith, 1776, p.30). Such cooperation is hence deduced from particulars as a spontaneous result of individual needs or self-love, as a butcher, a brewer, or a baker, by themselves, are not capable of guaranteeing their self-preservation but are in "almost constant occasion for the help of his brethren" (ibid.).

This is illustrated through another example of Smith using particulars to develop more general points in WN: the division of labor and specialization. In accounting for how the division of labor occurs, Smith relies heavily on another well-known analogy: the trade of the pin-maker.

In discussing the production of pins, Smith remarks how the trade is broken down into numerous small tasks, with each worker specializing in a specific part of the process: "One man draws out the wire, another straights it, a third cuts it, a fourth points it, a fifth grinds it at the top for receiving the head" (Smith, 1776, p. 18). Consequently, ten workers were able to increase the productive powers (skill, dexterity, and judgment) to "upwards of forty-eight thousand pins in a day" (ibid.). Comparatively, if they worked independently, Smith casts doubts that they could even produce one pin a day. This example shows Smith's use of induction in WN to establish two fundamental derived principles central to his inquiry into the causes of increasing wealth: the division of labor and specialization. Smith generalizes from this example to argue that these processes are fundamental drivers of economic growth and prosperity. By allowing workers to focus on specific tasks, society reaps the benefits of increased production and innovation, promoting trade, wealth creation, and the overall advancement of nations. Ultimately, Smith's pin factory analogy serves as a microcosm of his broader theory: that specialization and the division of labor, driven by self-love and the need for cooperation, contribute to society's collective wealth and well-being.

3.4.2. Nature and History

Nonetheless, the workings of the pin factory's division of labor and specialization are not described like those of the propensities to "barter, truck, and exchange" as principles inherent to human nature. Both stem as an effect, not a cause, of these human characteristics and a "necessary consequence of the faculties of reason and speech" (Smith, 1776, p. 29). They are then, as Schliesser (2011) termed "derived propensities" in opposition to the "original propensities" of Nature described by Smith¹⁶.

This brings us back to what was previously developed in accounting for the role of natural propensities on TMS, that of the workings of Nature as imbuing in mankind "final causes", with a focal point on the capacity for self-preservation of the species and, consequently, for the betterment of the well-being of society.

Bartering, trucking, and exchanging are viewed as natural propensities for they drive humans to a better state of cooperation, and hence to a more orderly and cohesive society, that ends up reflecting itself into the betterment of the condition of individuals (Berry, 2006). This justifies the emphasis on self-love as a spontaneous mechanism towards ordering the market. It is not that this sentiment on its own produces a better collective outcome, but rather that self-love works in conjunction with principles like those of sympathy and benevolence exposed in TMS towards the bigger goal enshrined by Nature.

¹⁶ "Original propensities" refers to universal tendencies, seen in Smith as part of human nature, like the desire for self-preservation, social connection, and the pursuit of happiness. In contrast, "derived propensities" are subjected to and molded by cultural and social contexts, making them contingent on external influences and institutions.

However, being a result of the spontaneous activities of mankind, despite the dependency on the natural tendencies of humans, the division of labor does not follow a linear development but is rather context-dependent, both by history and institutions (Fiori, 2012). The separation of activities and the specialization it leads to, according to Smith, has no place in a "rude state of society," but is instead a product of "every improved society" (Smith, 1776, p. 19), and developed progressively from a state where, in "a tribe of hunters or shepherds a particular person makes bows and arrows," which would afterward be traded for other needs he has no occasion for acquiring by his own labor, like "cattle or for venison" (Smith, 1776, p. 31). Hence, in such state of affairs, the specialization and division of labor would be present in a less complex and detailed way when compared with the modern, more "developed", trade of pins exemplified by Smith.

Apart from the influence of material realities Smith also highlights how institutions played a role in shaping the division of labor, particularly in his discussion of the Tartars in Book V. Because the Tartar chief had a higher status and greater wealth, his people were "invariably dependent on him for their subsistence." This made the chief serve as "both their general and their judge" (Smith, 1776, p. 949). But in this "rude state of society," with limited resources and little opportunity for trade, the chief couldn't exchange "that part of his rude produce which is over and above his own consumption" (ibid.). Instead, he had to use his surplus to maintain his men, deepening their dependence upon him.

In contrast, Smith explains that in an opulent and civilized society, even the wealthiest individuals cannot establish such degrees of dependency due to the prevalence of exchange and the division of labor. In these advanced societies, "as he gives scarce anything to anybody but in exchange for an equivalent, there is scarce anybody who considers himself as entirely dependent upon him" (ibid.). Hence, by reducing the dependency, Smith remarks that the despotic traits present in a Tartar Kahn get diminished. Concomitantly, it also encourages further development of the division of labor and specialization.

Thus, beyond natural tendencies, material conditions and institutions play a crucial role in determining how these propensities to barter, truck, and exchange manifest in reality (Evensky, 2007; Fiori, 2012). Although guided by Nature, the division of labor and economic development can be advanced or hindered depending on a society's historical and institutional context. This is where the normative, prescriptive elements of The Wealth of Nations begin to emerge more clearly. Nature provides the ideal—an

increase in society's well-being—with history and institutions influencing how such an end might be achieved. This is where Smith opens space for his "science of a statesman or legislator" (Smith, 1776, p. 557) and provides suggestions to correct or guide the course of development toward this natural end.

3.4.3. Criticisms of mercantilism

If in the first two books of WN, Smith provides a more descriptive analysis of the spontaneity behind the drivers of economic development through the workings of natural propensities, history, and institutions, he introduces book IV by defining the aims of Political Economy and inserting it in a broader science, that of the legislator (Winch, 1983).

Smith, accordingly, identifies Political Economy as being preoccupied with the enrichment of both the people and the sovereign or, in other words, of achieving that overarching end of the well-being of society, claiming Political Economy to have two significant objects: "first, to provide a plentiful revenue or subsistence for the people, ...; and secondly, to supply the state or commonwealth with a revenue sufficient for the public services." (Smith, 1776, p. 557).

That same spontaneity described in the workings of the systems of morality in TMS thus stands central, for Smith, in the natural arrangement of the market in the WN, providing society with a more cohesive organization (Hanley and Paganelli, 2014). However, as Smith exposed, institutions and different systems of political economy can lead to disturbances in this spontaneity, highlighting the system of his time, mercantilism, as an example. Smith even once characterized the WN as a "very violent attack… upon the whole commercial system of Great Britain" in a letter to Andreas Holt¹⁷ (Smith, 1987, p. 251).

Mercantilism, as Smith expounded, was founded upon deep misconceptions on the nature of money and wealth, resting on a confusion between the terms where "Money in common language, as I have already observed, frequently signifies wealth" (Smith, 1776, p. 586), leading to a widespread belief that the wealth of a country would consist merely in the acquisition and accumulation of the metals of gold and silver. By extension, starting from such a misconception, mercantilism would inevitably shape the goal of the political economy as the attainment of a positive trade balance. By the same logic,

¹⁷ Smith's letters were first published in 1977, under the title *The Correspondence of Adam Smith*, edited by Mossner and Ross.

governments would be compelled to impose restrictions upon importation and encourage exportations, or, in other words, implement forms of protectionism.

According to Smith, such misconceptions are, in the end, a product of "money", in mercantilism, representing both an instrument of exchange and genuine wealth. As he puts it "When we talk of any particular sum of money, we sometimes mean nothing but the metal pieces of which it is composed; and sometimes we include in our meaning some obscure reference to the goods which can be had in exchange for it" (Smith, 1776, p. 380). There is then, an inherent confusion between the ordinary meaning of the word, and the nature of it. However, such confusion is deemed as "natural" for "It is more natural, therefore, to… understand better what is meant by a quantity of a particular commodity than by a quantity of labor. The one is a plain palpable object; the other an abstract notion, which, though it can be made sufficiently intelligible, is not altogether so natural and obvious." (Smith, 1776, p. 52). Therefore, Smith does not condemn this misunderstanding but instead focuses on the condemnation of the instrumentalization by special interests (particularly mercantilists) of the maintenance of this myth for their gain.

Merchants and manufacturers, as Smith goes on to say, have interests that go "directly opposed to that of the great body of the people" (Smith, 1776, p. 647). Whereas the latter have as their interest in buying products at the lowest possible price, the former purport to impose a "monopoly of the home market" (ibid.), hence supporting policies like the imposition of high duties and prohibitions upon importations. Competition, for them, stands against their self-interest, hence their attempt at limiting competition and achieving higher prices.

Here, the problem lies not simply in the fact that a select group of people have interests that go against that of society but rather that they have the power to sway the public, including statesmen, that their interest corresponds to that of society, leading to the adoption of legislation in their favor, for "the clamour of our merchants and manufacturers has exorted from the legislature for the support of their own absurd and oppressive monopolies" (Smith, 1776, p. 859), thus persuading them "that the private interest of a part, and of a subordinate part of the society, is the general interest of the whole" (Smith, 1776, p. 182).

Mercantilism, as a system of Political Economy, thus produces outcomes contrary to those identified as the main objectives of the discipline by Smith. Their major agents, the merchants and manufacturers, in possessing interests contrary to those of the wellbeing of the greater body of people, consequently lead to a worsening of a country's situation, and hence, to the worsening of the living conditions. Once more, this suggests Smith's principle of "self-love" and that of its spontaneous character in producing better outcomes for the generality of people to not be as straightforward as one might initially think. Such principle is invariably connected to the historical context, much like the institutions in place. Hence, what leads towards one's own self-interest may, as in the case with the merchants and manufacturers, diverge from that of society's.

As Smith remarked in TMS, a system of government is akin to a machine, where "if you show how this system might be introduced into his own country, what it is that hinders it from taking place there at present, how those obstructions might be removed, and all the several wheels of the machine of government be made to move with more harmony and smoothness, without grating upon one another, or mutually retarding one another's motions. It is scarce possible that a man should listen to a discourse of this kind, and not feel himself animated to some degree of public spirit. He will, at least for the moment, feel some desire to remove those obstructions, and to put into motion so beautiful and so orderly a machine." (Smith, 1759, p. 217). It is this "harmony", "smoothness," that excites man to impel change, and it is this same feeling described by Smith in TMS that leads him to condemn mercantilism. An "irregularity" in a system of political economy, accordingly, would be identified if it went against the general welfare of society, or, as expressed in TMS, against the promotion of "happiness of those who lived under them", for "This is their [systems of government] sole use and end." (Smith, 1759, p. 216).

This fits well within Smith's analysis of "irregularities" both in HA and TMS. In the former, upon observing phenomena that go contrary to the prevailing theory, an adaptation, or even a total replacement of the theory is needed. In the latter, Smith's observations of "moral corruptions" are forwarded by a warning by Smith against such practices, for they work against the moral character of society. Here, in the WN, the economic system of mercantilism is denounced as wrong, not merely economically, but also morally, for it produces a worst (economic) outcome for the generality of society, but it also goes against the natural propensities of man. However, Smith does more than simply criticizing the prevailing system. He contrasts it to an ideal one, which should be the legislators' concern. That is, he prescribes how the State should act to correct for the deviations present in mercantilism, having a "system of natural liberty" as the reference point.

3.4.4. System of Natural Liberty

As expected from what has been previously said, Smith considers mercantilism a system of "preference or of restraint" due to its promotion of protectionism and the subsequent preferential treatment it gives to merchants' and manufacturers' interests in society. To this he opposes a "system of natural liberty", where "Every man, as long as he does not violate the laws of justice, is left perfectly free to pursue his own interest his own way, and to bring both his industry and capital into competition with those of any other man, or order of men." (Smith, 1776, p. 915). Furthermore, in such system, Smith declares the sovereign to have three duties "of great importance", that of national defense, the administration of justice, and of the provision of public goods "which it can never be for the interest of any individual, or small number of individuals, to erect and maintain" (Smith, 1776, p. 916).

Book IV starts with a denouncement of the abuses of mercantilism due to the need to excite the desire in the public to build a more coherent, and beautiful system, as pointed in TMS (Winch, 1996). By pointing out its faults, it enables Smith to present an alternative more in line with the goals of a system of governance. Instead of the selfishness and partiality of merchants promoted through mercantilism, Smith seeks to foster a vision of order and beauty in society (Hanley and Paganelli, 2014). He seeks to call forth the natural tendencies within man toward complementing the objectives of self-love with those of the betterment of their brethren. In short, to correct the deviations present in mercantilism to restore the "final cause" of our natural tendencies.

This is the main object of interest in WN (V) final book, where he describes in more detail the three roles of government pointed out above. To highlight his normative elements, however, it will suffice to demonstrate his considerations of one essential public good: the provision of education.

3.4.5. Education

The scholarly debate surrounding Smith's opinions on education is varied and contradictory. Regarding the provision of education, some claim it should be mainly provided under the guises of market forces (West, 1964), while others claim it to be mainly provided by the state (Skinner, 1996; Sen and Rothschild, 2006). But setting aside the question of how such institution should be provisioned, a more apt question should be looked at. What are, for Smith, the main aims of education?

In the first book of WN, Smith remarks on the natural similarity between men, claiming "habit, custom, and education" to be the causes of the differences seen "between the most dissimilar characters, between a philosopher and a common street porter" (Smith, 1776, p. 32). Furthermore, from the thoughts expressed by Smith on TMS regarding the "study of wisdom and the practice of virtue", a more careful reading would suggest Smith to consider the development of moral sentiments not simply to derive from the natural propensities of man, but rather to be promoted or obstructed through means of nurture (Berry, 2006; Weinstein, 2007).

Building on this foundation of human similarity, Smith argues that education plays a pivotal role in shaping individuals and society. Education for Smith was viewed as a means to combat those "moral corruptions" spoken about on TMS and, likewise, of building in the general populace more informed perspectives, which, by extension, can be employed for the countering of the special interests of certain groups, like those of the merchants and manufacturers in mercantilism, for "The more they are instructed, the less liable they are to the delusions of enthusiasm and superstition" (Smith, 1776, p. 1048).

At his time, however, the prevailing state of education among the lower ranks was reduced to "gross ignorance and stupidity" (ibid.). Due to the material conditions they had to endure, they were left with "no time to receive the necessary information," rendering their judgment "unfit" (Smith, 1776, p. 347). Consequently, their voices would be shunned in public deliberations, leaving them powerless over those of higher ranks (ibid.).

As already explained, such state of affairs was condemned by Smith, running the risk of incurring "moral corruptions" on individuals and, at the same time, favoring the enrichment of a few at the expense of the many, distorting the natural propensities of man. Hence, education was seen as a tool against this. By reducing the ignorance of lower classes, it would render them "more disposed to examine, and more capable of seeing through, the interested complaints of faction and sedition, and they are, upon that account, less apt to be misled into any wanton or unnecessary opposition to the measures of government" (Smith, 1774, p. 1049). In other words, it would make their decisions more informed and judicious, and more attentive against the capacity of a "faction" of the population to sway the general populace with regards to given policies. By extension, this would translate into an increase in the safety of governments, rendering them more stable and responsive to the well-being of society.
One of the culprits for the lack of judgment across the lower ranks was pointed out in the WN as the debilitating effects of the division of labor. Even if Smith considers such process beneficial for economic growth and development, he recognizes that it does not come without its faults. As a consequence of its nature of confining laborers "to a few very simple operations", they invariably come to be dissociated with other occupations, condemning them to become "as stupid and ignorant as is possible for a human creature to become", as well as of impeding them of "conceiving any generous, noble, or tender sentiment, and consequently, of forming any just judgment concerning many even of the ordinary duties of private life" (Smith, 1774, p. 1040).

With the majority of their lives being dedicated to the same routines at the factory, laborers would lack the time and the material conditions necessary to spend for education. From the very birth of a child, their parents would already have trouble keeping up with the expenses, forcing the children to go to work as soon as they could, and hence dooming them to a trade "so simple and uniform as to give little exercise to their understanding", and a labor "so constant and so severe, that it leaves them little leisure and less inclination to apply to, or even to think of, anything else." (Smith, 1774, p. 1044).

Thus, the lower ranks would get stuck in a vicious cycle wherein the nature of their labor, and their conditions limit their opportunities to thrive and ascend in life. Systems of Political Economy, however, should serve the interests of the general well-being of society and seek to better everyone's positions, leading Smith to urge for the public to pay attention to the education of common people. More than simply being an economic matter, if education remains restricted to higher ranks, "all the nobler parts of the human character may be, in a great measure, obliterated and extinguished in the great body of the people." (Smith, 1774, p. 1042).

In hopes of "correcting" the path of society, by cultivating in the great body of people virtuous morals and better foster the collective search for better living conditions, Smith considers of the utmost importance for the public to "impose upon almost the whole body of the people the necessity of acquiring those most essential parts of education" (Smith, 1774, p. 1044). For the increase of education not only enhances the judgment of the people, helping in shortening the gap of influence between the lower and higher ranks, but it would also increase the opportunities of individuals to pursue the betterment of their economic realities, since they could find new ways to apply their education to their trades. By increasing the coverage of education among the general populace society would thus benefit from, on the one hand, the offset of the negative consequences of the division of

labour and, on the other hand, increase the interest and dedication of individuals for furthering the interests of society as a whole, rendering them more stable, much like it happened among the Greek and Roman republics (Smith, 1774, pp. 1045-1047).

3.4.6. Positive and Normative Elements

Criticized for confusing positive and normative elements, while at the same time being lauded for founding modern scientific economics, Adam Smith's WN can only be understood if looked at with a broader view of his other works (HA and TMS). Viner's (1927, p. 207) assertion that there is a "irreconcilable divergence between the *Theory of Moral Sentiments* and the *Wealth of Nations*", does not seem to hold true when appraised under the lenses of this debate. In between them, the essay HA cements such perspective, rendering the methods and views on the philosophy of science coherent across all works.

The I and II Books of WN exhibit what one may consider this work's "positive" aspects. Employing a similar method as HA and TMS of abstracting generals from particulars according to which one goes on to employ induction and deduction, Smith focuses heavily on the capacity for deriving theories in the economic realm grounded on the initial day-to-day observations. Furthermore, in identifying the "economy" and the governance of a country with his ideas of a "system", the initial discussions surrounding the "nature" and "causes" of wealth end up exhibiting a more descriptive aim. This is evident across his discussions of both the principles of self-love (or self-interest) as the main driver for the occurrence of bartering, trucking, and exchanging, and on the occurrence of the division of labor and how it promotes the creation of wealth.

Being rendered as "systems", however, much like in HA and TMS, Smith admits them to be at risk of suffering disturbances or irregularities. In the case of WN, the economical machine ends up being severely constrained by the contextual material conditions and its historical evolution, much like with the workings of the surrounding institutions. If the Tartars suffered from a hierarchical organization too dependent upon the Khan, restricting them of the furtherance of the division of labor, the society of his time (mercantilism), favored the interests of the restricted groups like those of merchants and manufacturers, in detriment to those of the general population.

He describes the faults of the system to point out how it was diverging from the "natural" aims of society, itself viewed as intending the greater design (evidenced in TMS) of furthering the collective well-being, even if in a spontaneous and non-intentional manner. The positive elements thus served the purpose of identifying which "wheels"

required fixing in the whole economic and governmental "machines", with the natural propensities of man being visualized as the "ideal", encompassed in the system of natural liberty".

Hence Smith transitions from a mainly descriptive and "positive" element in WN, to one where he would urge his readers for the dismantling of the mercantilist system, and all the deviations it was associated with it, like the gap of influence between the higher and lower ranks of society, and the consequent drawbacks it would create in the path towards improving the overall conditions of society. Smith was similarly worried with the possible excesses that economic processes (with an emphasis on the division of labor) would incur upon the laborers, maintaining that, if left unchecked it would condemn the latter to a life of stupidity and ignorance, consequently dilating their gap with those of the higher ranks.

The WN thus stresses the public's intervention in the institution of education, which is seen as an antidote for mercantilism's ills and the economy's unintended consequences. This acknowledges the "ought" present in the WN, for it is prescribed that society take a closer look at improving the conditions of the lower classes through education. Furthermore, it also connects with the broader messages on HA, according to which "irregularities" should provoke changes or adaptations in the prevailing systems, in accordance with the end imbued on us by Nature of enhancing the conditions of the general populace first identified in TMS.

3.5. Smith's Bridging of Positive and Normative Elements

Adam Smith stands as a hallmark of economic thought with an undeniable legacy still present in our days. As a result, it has prompted numerous scholars to analyze his works to try and build an interpretative framework and further enrich the field of Economics with his contributions. However, from early on, opposing views have been presented, namely surrounding the question of Smith's appraisal for principles of self-interest in WN and those of sympathy and benevolence in TMS, in the form of the *Das Adam Smith Problem*.

Although the literature usually centered around this debate, the same divide can be found when looking at the existing contributions surrounding the question of Smith's scientific enterprises, usually coupled with either primarily positive, or normative readings of him. Already in the XIX century and beginning of the XX century, authors like Senior (1852) popularized the view of Smith as "unscientific", with his integration of a form of Naturalism being condemned by several authors, as encapsulated in Marshall's words (1927). Nonetheless, after Viner's comment on the existence of a detour between TMS and WN (1927), and the consolidation of the strict dichotomization between positive and normative economics, Smith went on to be reinterpreted as not only having a coherent message across both works, but also as being scientific and seeking out objectives of factual descriptiveness surrounding the causes and nature of both morality (TMS) and the market (WN), primarily exemplified by Bitterman (1940) or Campbell (1971). Despite this opinion being countered by others like Lindgren (1969) and Skinner (1979), they still followed a trend of ascribing to Smith a primary objective of pinpointing an "ought", rather than an "is", or in other words, they highlighted a normative character rather than a positive one in Smith.

However, following what has been said above, Smith's usage of contemporary positive or normative elements should not be regarded through the lenses of the strict dichotomization established by Robbins and Friedman, but rather as necessarily involving an interplay between them. This much becomes apparent when analyzing TMS and WN and his lesser-explored HA. While the latter provides us with Smith's thoughts on methodological and broader scientific matters, focusing on natural philosophy, the former gives us his concerns surrounding what was then moral philosophy (Campbell, 1971). Despite being two different fields, Smith seems to have followed a tendency of his time of seeking to apply the Newtonian methods applied in natural philosophy to moral philosophy, akin to Hume's pursuance to build a "science of man". Such, however, required him to couple descriptive, factual analysis, with value-laden propositions, to be both concerned with means and ends, the "is", and the "ought".

In HA, Smith sketches an analysis of three main sentiments, Surprise, Wonder, and Admiration, by illustrating them through the historical development of the field of Astronomy. When confronted with new observations, Smith claims, we are invariably led to seek an explanation for them. However, in the absence of a sufficiently simple, coherent, and familiar system of thought, the existing theories fall short in this endeavor, thus creating a feeling of the presence of a "gap". This "gap" arises with the acknowledgment, through the feeling of Wonder, of our incapacity to explain the given observation, something which, posits Smith, causes us feelings akin to pain. Hence, man is naturally enticed to find some new theory capable of "filling the gap", with the objective of dispelling said pain, and re-establish the "state of tranquility" associated with Admiration, that is to achieve a feeling of ease of the imagination. Accordingly, new systems of thought and theories are developed or refined throughout time, with the aim not of achieving "truth", but rather of restoring a sense of pleasure in our mind.

This primarily psychological impetus of HA demonstrates that for the act of theorizing itself, Smith considers it to be answering towards natural propensities of the desire for pleasure rather than simply achieving descriptive, factual analysis of a given observation. Nonetheless, this desire can only be attained through the usage of the latter types of analysis. Smith considered the unease of the mind to be provoked by the presence of a disconnection between disjointed phenomena (lack of causal explanation), borrowing from Newton's views the idea that such could only be solved by employing an inductive method, that is, by starting from particular observations from which a general conclusion would be afterward deduced. In the same way that observations (in the forms of irregularities) first caused the sentiments of Surprise and Wonder, so too was observation essential for the "filling of the gap", with Smith continuously using observations across history as indicative of the confirmation of the predictions deduced from the particulars (as demonstrated by his remarks of the observations of Lapland, Peru, and of the return of the comet in line with Newton's predictions).

Such thoughts regarding methodology and theorizing demonstrate Smith's visions of why we employ "positive" reasoning in the first place. With the main drivers for system-building being the search for the "state of tranquility" and the pleasure associated with it of easing the imagination, one can only come up with a sufficiently simple, familiar, and coherent explanation by resorting to descriptive analysis through observations and the employment of inductive reasoning to deduce a general conclusion. Hence, a theory is valuable not just because of its descriptive and factual elements, but also by its intent of restoring psychological comfort, or of easing the imagination, thus going beyond a positivistic outlook.

This idea is not exclusive to HA but is instead transposed to the moral philosophy of TMS. Written as an attempt to describe the surge of systems of approbation and disapprobation across society, Smith employs observation and inductive reasoning to explain why people judge a given action in a positive or negative light. According to him, by observing the acts around us, we relate to the feelings of pain or pleasure associated with them, approving of the latter and disapproving of the former. These are subsequently made general in a given society and thus seen as moral imperatives, consequently empowering in an individual that a certain act is "wrong" and another one "right". Albeit evidently providing an attempt at giving a factually descriptive account of systems of morality, this entire analysis is permeated with a normative character, with the sensations of pain and pleasure indicating to us the "ought", the morally desirably. These sensations, according to Smith, are imbued in us by Nature, with the aims of preserving the human species, and of contributing to an overall enhancement of societal harmony. Thus, TMS expounds an end, a "final cause", to our actions, with the means being discovered through processes of internalization of the generalized rules built from the first perceptions one has upon a certain act (whether it generates a feeling of pain or pleasure). This internalization is represented through Smith's "impartial spectator", which enables one to put himself into the positions of others, to feel sentiments of sympathy, and ultimately of benevolence. Consequently, whenever an individual perceives someone else to have fallen victim to an injustice or something that may go against the "final cause" of Nature, that person will reprehend it and even haunt the perpetrator of the injustice.

However, the existence of ends provided to us by Nature does not mean that Smith considers our behaviors deterministic. He instead recognizes that the societal and historical context can lead to the formation of irregularities in the form of "moral corruptions," which end up being counterproductive to those objectives of contributing to society. Smith warns us that material conditions of status and wealth can distort natural instincts, making individuals prioritize material rewards and of confuse them with virtuousness. Here, a clear prescriptive element arises where Smith seeks to point out the importance of "correcting" these deviations, and to return to the principles of sympathy and benevolence, aligning it with the broader societal good. Thus, in TMS, the positive description made serves to highlight the ends of Nature, and of warning us against existing deviations ("moral corruptions").

Similarly, in WN, Smith again blends positive and normative elements, this time within the realm of Political Economy. Like HA and TMS, he begins his analysis with a strong emphasis on observation and inductive reasoning, deriving from particulars the idea that principles of self-interest (or self-love) drive the behaviors of bartering, trucking, and trading, subsequently leading to the historical development of the division of labor and specialization. This exhibits a positive, descriptive side to WN, in accounting for wealth's nature and causes.

However, Smith explains how the processes of the division of labor and specialization are inherently dependent upon societal contexts, with particular attention to the role of institutions in it. Using the historical example of the Tartars, he explains how the dependence of the Tartars upon the Khan largely constrained their capacity to further the propensities to barter, truck, and exchange to the point of achieving a division of labor and specialization akin to that of Smith's own times. For these processes to occur, the said dependency of the lower and middling ranks to the higher ranks of society had to be diminished, and the material conditions similarly increased.

The purported influence of the role of institutions was only highlighted through its contrast to the descriptive workings of the market and led Smith to criticize the economic system of his time, mercantilism. Such system, according to him, deviated from the ideal of the system of natural liberty, hence worsening and not promoting the Welfare of society. Standing in opposition to those ends of improving the collective well-being of the population, mercantilism necessarily favored certain interest groups (like the merchants and manufacturers), as opposed to the whole of the population, leading to inequalities and inefficiencies of the system.

Smith here not only observes this deviation but also condemns it, urging in Book V for the public to be involved in the provision of Education as a solution to the ills of mercantilism and to the unintended consequences of the division of labor and specialization of rendering people "stupid" due to their time being primarily occupied with the same tasks in a factory. Education is thus seen as an essential tool for the promotion of social well-being, and hence for the return of achieving the goal imposed on us by Nature.

Hence, across HA, TMS, and WN, Smith consistently intertwines positive and normative elements. In HA, he describes the process of theory-building through observation but emphasizes the normative goal of achieving psychological comfort. In TMS, he explains the formation of moral systems while prescribing a return to natural instincts to achieve personal and societal harmony. Finally, in WN, a descriptive account of economic processes is offered, coupled with critiques of the deviations caused by mercantilism and reforms promoting social well-being.

Conclusion

The positive-normative question is an ever-present debate within the field of Economics. From its inception as "Political Economy", long discussions have developed surrounding the discipline's ontology: Should it focus on descriptive, factual analysis (on the "is") or on prescriptive, value-infused analysis (on the "ought")?

Many were keen on separating both spheres to grant the study of the economy a more "scientific" and autonomous role within academics. From Nassau Senior onwards, the field was permeated with the "art"/"science" debate, with warnings by the former of confounding the study of the nature with that of the nature of welfare, for the latter corresponded with a broader, extra-economical study, necessitating inputs from a variety of different areas.

After Senior, Mill refined the methods surrounding the study of a "scientific" form of doing Political Economy, making use of the "inductive-deductive" method and of abstractions as forms of isolating economic phenomena from other areas of thought, and hence facilitating the autonomization of the field. Authors like John Neville Keynes further complexified the "science"/"art" debate, through the introduction of the "trichotomy", identifying three ways of doing Political Economy: the positive (descriptive/factual), the normative (prescriptive/value-laden); the "art" (concerned with the ends).

Thereafter, a natural progression from the "science"/"art" debate to the "positive"/"normative" one occurred within the field of Economics. Lionel Robbins popularized the now widely viewed conception of the discipline as a value-free, descriptive, and factual analysis of economic phenomena, thus setting the stage for the strict dichotomization between positive and normative economics. Later on, Milton Friedman refined the methodology of the field, arguing it to be built upon an axiomatic-deductive methodology, borrowing from the logical positivist movement the reliability of empirical observations for the verification of the theories (through the testability of the predictions).

More recently, however, the debate has received multiple criticisms, with Hillary Putnam being a telling example. Coming from the tradition of analytical philosophy he argued for the dismantling of the strict dichotomization, claiming positive statements and theories to be inherently entangled with normative elements. Although coming from a more modern perspective, Putnam's conception of the debate as necessitating an intertwining of the positive and the normative finds commonalities with Adam Smith himself. Despite the debate only being explicitly discussed since Nassau Senior, Smith already employed both positive and normative elements, conceptualizing the discipline as necessarily relying on said intertwining of the two camps.

In his lesser explored *History of Astronomy*, Smith sketches his thoughts regarding theories and the philosophy of science more generally, claiming man to be responding to psychological elements of "pain" (infused in the sentiments of Surprise and Wonder) and "pleasure" (encapsulated in the sentiment of "admiration" and of the "state of tranquility") as the drivers for theorizing. The building of systems thus served for him a greater aim of achieving a "ease of the imagination", and to render disjointed phenomena comprehensible in a simple, coherent, and familiar manner.

This type of theorizing, borrowing from Smith's vision of the Newtonian method, was molded in the forms of a mainly inductive reasoning, according to which, one would derive generals from particulars, with the use of deductive reasoning in later appliance of said generals. Naturally, this leads Smith to give a prominent role to observations and descriptive value in his theorizing. This could be termed as the main "positive" elements of Smith's writings, evidenced both in the explanation of the building of systems of approbation and disapprobation in societies (TMS), and in the explanation of the "nature" and "causes" of the wealth of nations (WN I and II).

However, in opposition to the strict dichotomization developed in Economics, the positive elements necessarily intertwined themselves with normative aims across Smith's works. As can be seen from the analysis made of HA, TMS, and WN, human sentiments and natural tendencies play a pivotal role as the drivers of human behavior. Be it surprise, wonder, and admiration in the first, sympathy and benevolence on the second, or self-love on the latter, there is an overarching psychological element Smith. These sentiments, however, do not act on themselves. They are actively constrained by context, material conditions, and institutions, leading to "irregularities". The positive element serves to highlight those deviations, and thenceforth for Smith to suggest how they can be corrected. This correction is done with Smith having in mind the "natural" aims of society, identified by him as corresponding to the greater good of society. This end is what leads to the spontaneous activities of the natural tendencies of man, and it is with regards to them that the positive analysis across Smith's work should be viewed.

Thus, contrary to the tendency across the literature to either "fit" Adam Smith into one of the camps of the strict dichotomization of the positive-normative debate, or to conclude him to be "confusing" the two camps, a more nuanced reading of Smith should be made. Smith did not view the debate as Robbins and Friedman later popularized it as a strict dichotomy, but rather, for him the positive and the normative were not regarded as independent forms of doing Political Economy, but instead necessitated a coexistence. While the positive elements enabled the mind to comprehend complex processes in a simple, coherent, and familiar manner, providing the imagination with "ease" and enabling it to identify "irregularities", the normative element aimed at restoring the path of society to one in accordance with the goals of Nature.

Bibliography

Alvey, J. (2004). 'The hidden theology of Adam Smith: A belated reply to Hill', *The European Journal of the History of Economic Thought*, 11(4), pp. 623–628. Available at: <u>https://econpapers.repec.org/article/tafeujhet/v_3a11_3ay_3a2004_3ai_3a4_3ap_3a623-628.htm</u>

Ayer, A. J. (Ed.). (1959). Logical positivism. New York: Free Press.

Berry, C. J. (2006). 'Smith and science', in K. Haakonssen (ed.), *The Cambridge Companion to Adam Smith*. Cambridge: Cambridge University Press, pp. 112–135. Available at: <u>https://doi.org/10.1017/CCOL0521770599.005</u>

Berry, C. J. (2018). *Adam Smith: A very short introduction*. Oxford: Oxford University Press.

Bittermann, H. J. (1940). 'Adam Smith's empiricism and the law of nature: I', *Journal of Political Economy*, 48(4), pp. 487–487. Available at: <u>https://ideas.repec.org//a/ucp/jpolec/v48y1934p487.html</u>

Blaug, M. (1992). *The methodology of economics, or, How economists explain.* 2nd ed. Cambridge: Cambridge University Press.

Boland, L. (1979). 'A critique of Friedman's critics', Journal of Economic Literature,17(2),pp.503–522.Availableat:https://econpapers.repec.org/article/aeajeclit/v_3a17_3ay_3a1979_3ai_3a2_3ap_3a503-22.htm

Bowley, M. (1936). 'Nassau Senior's contribution to the methodology of economics', *Economica*, 3(11), p. 281. Available at: <u>https://doi.org/10.2307/2549222</u>

Bryson, G. (1945). *Man and society: The Scottish inquiry of the eighteenth century*. Princeton: Princeton University Press. Available at: <u>https://doi.org/10.1037/13558-000</u>

Campbell, T. and Smith, A. (2010). *Adam Smith's science of morals*. Allen & Unwin, London, 1971. London: Routledge (Routledge library editions: Adam Smith, Vol. 3).

Campbell, T. (2013). 'Adam Smith: Methods, morals, and markets', in C. J. Berry, M. P.

Caplin, A. and Schotter, A.R. (2008). *The foundations of positive and normative economics: A handbook*. Oxford: Oxford University Press.

Carvalho, L.F. (2012). 'On the split between the "science" and the "art" of political economy: Nineteenth-century controversies'. DINÂMIA'CET-IUL. Available at: <u>https://doi.org/10.7749/dinamiacet-iul.wp.2012.19</u>

Chibeni, S. S. (2012). 'Hume e as bases científicas da tese de que não há acaso no mundo', *Principia: An International Journal of Epistemology*, 16(2), pp. 229–254.

Colander, D. and Su, H.-C. (2015). 'Making sense of economists' positive-normative distinction', *Journal of Economic Methodology*, 22(2), pp. 157–170. Available at: <u>https://doi.org/10.1080/1350178X.2015.1024877</u>

Cremaschi, S. V. M. (1987). 'Adam Smith. Skeptical newtonianism, disenchanted republicanism, and the birth of social science', in M. Dascal & O. Gruengrad (eds), *Knowledge and politics: Case studies on the relationship between epistemology and political philosophy*. Westview Press, pp. 83–110. Available at: <u>https://philarchive.org/rec/CREASS-3</u>

Cremaschi, S. and Dascal, M. (1996). 'Malthus and Ricardo on economic methodology', *History of Political Economy*, 28(3), pp. 474–511. Available at: https://doi.org/10.1215/00182702-28-3-475

Davis, J. B., Hands, D. W., & Mäki, U. (Eds.). (1998). 'Hutchison, Terence W.', in *The Handbook of Economic Methodology*. Cheltenham: Edward Elgar Publishing. Available at: <u>https://doi.org/10.4337/9781781954249.00055</u>

De Roover, R. (1955). 'Scholastic economics: Survival and lasting influence from the sixteenth century to Adam Smith', *The Quarterly Journal of Economics*, 69(2), pp. 161–190. Available at: https://econpapers.repec.org/article/oupqjecon/v_3a69_3ay_3a1955_3ai_3a2_3ap_3a16 1-190.htm

Demeter, T. (2016). *David Hume and the culture of Scottish Newtonianism: Methodology and ideology in enlightenment inquiry*. Boston: Brill.

Demeter, T., & Schliesser, E. (2019). 'The uses and abuses of mathematics in early modern philosophy: Introduction', *Synthese*, 196(9), pp. 3461–3464. Available at: <u>https://doi.org/10.1007/s11229-017-1670-y</u>

Diamond, A.M. (1986). 'The impact of Smith's philosophy of science on his economics', *The American Economist*, 30(1), pp. 60–65. Available at: <u>https://doi.org/10.1177/056943458603000110</u>

Drakopoulos, S.A. (1997). 'Origins and development of the trend toward value-free economics', *Journal of the History of Economic Thought*, 19(2), pp. 286–300. Available at: <u>https://doi.org/10.1017/S1053837200000821</u>

Ekelund, R.B. and Olsen, E.S. (1973). 'Comte, Mill, and Cairnes: The positivistempiricist interlude in late classical economics', *Journal of Economic Issues*, 7(3), pp. 383–416.

Fiori, S. (2012). 'Adam Smith on method: Newtonianism, history, institutions, and the "invisible hand", *Journal of the History of Economic Thought*, 34(3), pp. 411–435. Available at: <u>https://doi.org/10.1017/S1053837212000405</u>

Fitzgibbons, A. (1997). Adam Smith's system of liberty, wealth, and virtue: The moral and political foundations of the Wealth of Nations. Oxford: Clarendon Press.

Friedman, M. (1953). *Essays in positive economics*. Chicago: University of Chicago Press.

Fontaine, P. (1996). 'The French economists and politics, 1750–1850: The science and art of political economy', *The Canadian Journal of Economics / Revue canadienne d'Économique*, 29(2), pp. 379–393. Available at: <u>https://doi.org/10.2307/136295</u>

Griswold Jr, C. L. (1998). *Adam Smith and the virtues of enlightenment*. Cambridge: Cambridge University Press.

Hands, D. W. (2001). *Reflection without rules: Economic methodology and contemporary science theory*. Cambridge: Cambridge University Press.

Hands, D. W. (2009). 'Effective tension in Robbins' economic methodology', *Economica*, 76(s1), pp. 831–844. Available at: <u>https://doi.org/10.1111/j.1468-0335.2009.00791.x</u>

Hands, D. W. (2012). 'The positive-normative dichotomy and economics', in *Philosophy of economics*. Amsterdam: Elsevier, pp. 219–239. Available at: https://doi.org/10.1016/B978-0-444-51676-3.50009-9

Hanley, R. P. (2009). *Adam Smith and the character of virtue*. Cambridge: Cambridge University Press. Available at: <u>https://doi.org/10.1017/CBO9780511581212</u>

Hanley, R. and Paganelli, M. P. (2014). 'Adam Smith on money, mercantilism, and the system of natural liberty', SSRN Scholarly Paper No. 2435315. Available at: <u>https://papers.ssrn.com/abstract=2435315</u>

Hausman, D. M. (1981). 'John Stuart Mill's philosophy of economics', *Philosophy of Science*, 48(3), pp. 363–385. Available at: <u>https://www.jstor.org/stable/186985</u>

Hausman, D.M. (2007) *The Philosophy of Economics: An Anthology*. 3rd edn. Cambridge: Cambridge University Press. Available at: https://doi.org/10.1017/CBO9780511819025.

Heath, E. (1995) 'The Commerce of Sympathy: Adam Smith on the Emergence of Morals', *Journal of the History of Philosophy*, 33(3), pp. 447-466. Available at: https://dx.doi.org/10.1353/hph.1995.0049.

Henderson, W. (2006) *Evaluating Adam Smith*. Routledge. Available at: https://doi.org/10.4324/9780203421949.

Hill, L.E. (1968) 'A Critique of Positive Economics', *The American Journal of Economics and Sociology*, 27(3), pp. 259–266.

Hinnant, C.H. (1998) 'The Invention of Homo Oeconomicus: A Reading of John Stuart Mill's "On the Definition of Political Economy", *Prose Studies*, 21(3), pp. 51–68. Available at: https://doi.org/10.1080/01440359808586653.

Hudson, W.D. (ed.) (1969) *The Is-Ought Question*. London: Palgrave Macmillan UK. Available at: <u>https://doi.org/10.1007/978-1-349-15336-7</u>.

Hume, D. (2009) A Treatise of Human Nature: Being an Attempt to Introduce the Experimental Method of Reasoning into Moral Subjects. Originally published 1739. Waiheke Island: Floating Press.

Hutchison, T.W. (2013) *Positive Economics and Policy Objectives*. Originally published 1964. Abingdon: Routledge. Available at: <u>https://doi.org/10.4324/9781315016894</u>.

Jackson, W.A. (1995) 'Naturalism in Economics', *Journal of Economic Issues*, 29(3), pp. 761–780. Available at: https://doi.org/10.1080/00213624.1995.11505708.

Jevons, W.S. (1871) *The Theory of Political Economy*. History of Economic Thought Books, McMaster University Archive for the History of Economic Thought. Available at: https://econpapers.repec.org/bookchap/hayhetboo/jevons1871.htm.

Keynes, J.N. (1890) *The Scope and Method of Political Economy*. McMaster University Archive for the History of Economic Thought. Available at: <u>https://historyofeconomicthought.mcmaster.ca/keynesjn/Scope.pdf</u>.

Kim, K. (2017) 'Philosophy and Science in Adam Smith's "History of Astronomy": A Metaphysico-Scientific View', *History of the Human Sciences*, 30(3), pp. 107–130. Available at: <u>https://doi.org/10.1177/0952695117700055</u>.

Kincaid, H. and Ross, D. (eds) (2009) *The Oxford Handbook of Philosophy of Economics*. Oxford: Oxford University Press.

Kirchin, S. (ed.) (2013) Thick Concepts. Oxford: Oxford University Press.

Krueger, A.O. (2003) 'Introduction', in Smith, A. *The Wealth of Nations*. Edited by Krueger, A.O. Chicago: University of Chicago Press, pp. 1–22.

Kupperman, J.J. (1985) 'Francis Hutcheson: Morality and Nature', *History of Philosophy Quarterly*, 2(2), pp. 195–202.

Lindgren, J.R. (1969) 'Adam Smith's Theory of Inquiry', *Journal of Political Economy*, 77(6), pp. 897-915. Available at: https://doi.org/10.1086/259578.

Longuet-Higgins, H.C. (1992) "The History of Astronomy": A Twentieth-Century View', in Jones, P. and Skinner, A. (eds) *Adam Smith Reviewed*. Edinburgh: Edinburgh University Press.

Louzek, M. (2011) 'The Battle of Methods in Economics: The Classical Methodenstreit— Menger vs. Schmoller', *The American Journal of Economics and Sociology*, 70(2), pp. 439–463. Available at: <u>https://doi.org/10.1111/j.1536-7150.2011.00780.x</u>.

Luna, F. (1996) 'From the History of Astronomy to the Wealth of Nations: Wonderful Wheels and Invisible Hands in Adam Smith's Major Works', in Vaz, D. and Velupillai, K. (eds) *Inflation, Institutions and Information.* London: Palgrave Macmillan UK, pp. 131–153. Available at: <u>https://doi.org/10.1007/978-1-349-13521-9_8</u>.

MacIntyre, A. (1959) 'Hume on "Is" and "Ought", *The Philosophical Review*, 68(4), pp. 451–568. Available at: <u>https://doi.org/10.2307/2182491</u>.

Macfie, A. (1971) 'The Invisible Hand of Jupiter', *Journal of the History of Ideas*, 32(4), pp. 595–599. Available at: <u>https://doi.org/10.2307/2708980</u>.

Marshall, A. (2011) *Principles of Economics*. Originally published 1890. Available at: https://oll.libertyfund.org/titles/1676.

Meek, R.L. and Raphael, O.D. (no date) *Lectures on Rhetoric and Belles Lettres*. Edited by J.C. Bryce. Oxford: Clarendon Press.

Mill, J.S. (1836) 'On the Definition of Political Economy and the Method of Investigation Proper to It', in Hausman, D.M. (ed.) (1994) *The Philosophy of Economics: An Anthology*. Cambridge: Cambridge University Press, pp. 41–58.

Mill, J.S. (1965) *A System of Logic*. Originally published 1843. Toronto: University of Toronto Press.

Mill, J.S. (1844) *Essays on Some Unsettled Questions of Political Economy*. London: John W. Parker.

Mill, J.S. (1973) *Auguste Comte and Positivism*. Edited by J.M. Robson. Toronto: University of Toronto Press. Originally published 1865.

Mill, J.S. (1965) *Principles of Political Economy*. Originally published 1848. Toronto: University of Toronto Press.

Milonakis, D. and Fine, B. (2009) From Political Economy to Economics: Method, the Social and the Historical in the Evolution of Economic Theory. Routledge.

Montes, L. (2008) 'Newton's Real Influence on Adam Smith and Its Context', Cambridge

Journal of Economics, 32(4), pp. 555–576. Available at: https://doi.org/10.1093/cje/bem056.

Montes, L. (2013) 'Newtonianism and Adam Smith', in Berry, C.J., Paganelli, M.P., and Smith, C. (eds) *The Oxford Handbook of Adam Smith*. Oxford: Oxford University Press, pp. 1-30. Available at: https://doi.org/10.1093/oxfordhb/9780199605064.013.0003.

Moore, G. (2003) 'John Neville Keynes's Solution to the English Methodenstreit', *Journal* of the History of Economic Thought, 25(1), pp. 5–38. Available at: https://doi.org/10.1017/S1053837200001857.

Mosselmans, B. (1998) 'William Stanley Jevons and the Extent of Meaning in Logic and Economics', *History and Philosophy of Logic*, 19(2), pp. 83–99. Available at: <u>https://doi.org/10.1080/01445349808837299</u>.

Myrdal, G. (1990) *The Political Element in the Development of Economic Theory*. Originally published 1953. New Brunswick: Transaction Publishers.

Nagel, E. (1961) *The Structure of Science: Problems in the Logic of Scientific Explanation*. New York: Harcourt, Brace & World.

Newton, I. (2010) *The Principia: Mathematical Principles of Natural Philosophy*. Originally published 1687. Snowball Publishing.

Newton, I. and United States Patent Office Scientific Library (1704) *Opticks: or, A Treatise of the Reflexions, Refractions, Inflexions and Colours of Light. Also Two Treatises of the Species and Magnitude of Curvilinear Figures.* London: S. Smith and B. Walford. Available at: <<u>www.loc.gov/item/46039060/</u>>.

Ostapiuk, A. (2020) *The Eclipse of Value-Free Economics: The Concept of Multiple Self Versus Homo Economicus.* Wroclaw: Publishing House of Wroclaw University of Economics and Business.

Otteson, J.R. (2002) 'Private Judgment, Individual Liberty, and the Role of the State', *Journal of Social Philosophy*, 33(3), pp. 491–511. Available at: https://doi.org/10.1111/1467-9833.00152.

Putnam, H. (2002). The collapse of the fact/value dichotomy and other essays. Harvard

University Press.

Rae, J. (1834). Statement of some new principles on the subject of political economy, exposing the fallacies of the system of free trade and of some other doctrines maintained in the Wealth of Nations. Hilliard, Gray, and Co, Boston.

Rae, J. (1895). *Life of Adam Smith*. London: Macmillan. Available at: Liberty Fund <u>https://oll.libertyfund.org/titles/rae-life-of-adam-smith</u>.

Raphael, D.D. (1985). Adam Smith (Past Masters). Oxford: Oxford University Press.

Raphael, D.D. (2007). *The impartial spectator: Adam Smith's moral philosophy*. New York: Oxford University Press.

Reisman, G. (2015). *Adam Smith's sociological economics*. Originally published 1976. New York: Routledge.

Reiss, J. (2017). 'Fact-value entanglement in positive economics', *Journal of Economic Methodology*, 24(2), pp. 134–149. Available at: https://doi.org/10.1080/1350178X.2017.1309749.

Robbins, L. (1945). *An essay on the nature and significance of economic science*. Originally published 1935. London: Macmillan and Co., Limited.

Robbins, L. (1981). 'Economics and political economy', *The American Economic Review*, 71(2), pp. 1–10. Available at: <u>https://www.jstor.org/stable/1815684</u>.

Ross, I. (1995). The life of Adam Smith. Edinburgh: Edinburgh University Press.

Rothschild, E. and Sen, A. (2006). 'Adam Smith's economics', in K. Haakonssen (ed.) *The Cambridge Companion to Adam Smith*. 1st edn. Cambridge University Press, pp. 319–365. Available at: <u>https://doi.org/10.1017/CCOL0521770599.013</u>.

Russell, B. (1950). 'Logical positivism', *Revue Internationale de Philosophie*, 4(11), pp. 3-19. Available at: https://doi.org/10.1017/S0022481200101045.

Samuels, W. (1962). 'The physiocratic theory of economic policy', *The Quarterly Journal of Economics*, 76(1), pp. 145–162. Available at: https://econpapers.repec.org/article/oupgjecon/v_3a76_3ay_3a1962_3ai_3a1_3ap_3a14

<u>5-162..htm</u>.

Samuelson, P. (1977). 'A modern theorist's vindication of Adam Smith', *American Economic Review*, 67(1), pp. 42–49. Available at: <u>https://econpapers.repec.org/article/aeaaecrev/v_3a67_3ay_3a1977_3ai_3a1_3ap_3a42-49.htm</u>.

Samuelson, P. and Nordhaus, W. (2009). Economics. 19th edn. McGraw-Hill, New York.

Scarantino, A. (2009). 'On the role of values in economic science: Robbins and his critics', *Journal of the History of Economic Thought*, 31(4), pp. 449–473. Available at: <u>https://doi.org/10.1017/S1053837209990253</u>.

Schliesser, E.S. (2002). 'Indispensable Hume: From Isaac Newton's natural philosophy to Adam Smith's "science of man"'. Dissertation, The University of Chicago. Available at: <u>https://philpapers.org/rec/SCHIHF</u>.

Schliesser, E. (2005). 'Wonder in the face of scientific revolutions: Adam Smith on Newton's "proof" of Copernicanism', *British Journal for the History of Philosophy*, 13(4), pp. 697-732. Available at: <u>https://doi.org/10.1080/09608780500293042</u>.

Schliesser, E. (2011). 'Reading Adam Smith after Darwin: On the evolution of propensities, institutions, and sentiments', *Journal of Economic Behavior & Organization*, 77(1), pp. 14–22. Available at: <u>https://doi.org/10.1016/j.jebo.2010.04.007</u>.

Schliesser, E. (2017). *Adam Smith*. Oxford University Press. Available at: https://doi.org/10.1093/oso/9780190690120.001.0001.

Schumpeter, J.A. (1954). *History of economic analysis*. Oxford University Press, New York.

Senior, N.W. (1836). *Four introductory lectures on political economy*. London: Longman, Brown, Green, and Longmans. Available at: https://oll.libertyfund.org/titles/senior-four-introductory-lectures-on-political-economy.

Senior, N.W. (1860). 'Opening address of Nassau W. Senior, Esq., as President of Section
F (Economic Science and Statistics), at the Meeting of the British Association, at Oxford,
28th June, 1860', *Journal of the Statistical Society of London*, 23(3), p. 357. Available at:

https://doi.org/10.2307/2338502.

Skinner, A.S. (1979). 'Adam Smith: An aspect of modern economics?', *Scottish Journal of Political Economy*, 26(2), pp. 109–125. Available at: <u>https://doi.org/10.1111/j.1467-</u>9485.1979.tb00538.x.

Skinner, A.S. (1996). A system of social science: Papers relating to Adam Smith. Clarendon Press.

Skinner, A. (2001). 'Adam Smith, the philosopher and the porter', in P. Porta, R. Scazzieri, and A. Skinner (eds) *Knowledge, social institutions and the division of labour*. Edward Elgar Publishing, pp. 35–52. Available at: https://doi.org/10.4337/9781782542377.00010.

Smith, A. (2010). *The theory of moral sentiments*. Originally published 1759. Introduction by Amartya Sen. Edited and notes by Ryan Patrick Hanley. London: Penguin.

Smith, A. (1976). *An inquiry into the nature and causes of the wealth of nations*. Originally published 1776. Preface by George J. Stigler. Chicago: University of Chicago Press.

Smith, A. (1980). *Essays on philosophical subjects*. Edited by W.P.D. Wightman and J.C. Bryce. Oxford: Clarendon Press. Originally published 1795.

Smith, A. (1963). *Lectures on rhetoric and belles lettres*. Edited by J.C. Bryce. Oxford: Clarendon Press. Originally delivered 1762-1763.

Smith, A., Mossner, E.C., Ross, I.S. & Smith, A. (1987). *The correspondence of Adam Smith*. Liberty Classics.

Smith, B. (2016). 'Naturalism, experience, and Hume's "science of human nature"', *International Journal of Philosophical Studies*, 24(3), pp. 310-323. Available at: <u>https://doi.org/10.1080/09672559.2016.1176389</u>.

Stigler, G.J. (1981). 'Economics or ethics', *The Tanner Lectures on Human Values*, 2, pp. 143-191. Available at: <u>https://tannerlectures.utah.edu/_resources/documents/a-to-</u>z/s/stigler81.pdf.

Stroud, B. (1977). 'Hume', *Philosophical Review*, 125(4), pp. 597-601. Available at: https://doi.org/10.1215/00318108-3652033.

Viner, J. (1927). 'Adam Smith and laissez faire', *Journal of Political Economy*, 35(2), pp. 198–232. Available at: <u>http://www.jstor.org/stable/1823421</u>. Accessed 17 June 2024.

Weinstein, J.R. (2007). 'Introduction: Adam Smith's philosophy of education', in *The Adam Smith Review: Volume 3*. Routledge.

West, E.G. (1964). 'Private versus public education: A classical economic dispute', *Journal of Political Economy*, 72(5), pp. 465–475.

Weston, S.C. (1994). 'Toward a better understanding of the positive/normative distinction in economics', *Economics and Philosophy*, 10(1), pp. 1–17. Available at: <u>https://doi.org/10.1017/S0266267100001681</u>.

Whitaker, J.K. (1975). 'John Stuart Mill's methodology', *Journal of Political Economy*, 83(5), pp. 1033–1049. Available at: <u>https://doi.org/10.1086/260376</u>.

Williams, B. (1985). Ethics and the limits of philosophy. London: Fontana Press.

Winch, D. (1983). 'Science and the legislator: Adam Smith and after', *The Economic Journal*, 93(371), p. 501. Available at: <u>https://doi.org/10.2307/2232392</u>.

Zouboulakis, M.S. (2008). 'Contesting the autonomy of political economy: The early positivist criticism of economic knowledge', *The European Journal of the History of Economic Thought*, 15(1), pp. 85–103. Available at: https://doi.org/10.1080/09672560701858699.