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Razón y experiencia en el mecanismo especie-flujo de David Hume

Reason and Experience in David Hume's Specie-flow Mechanism

Razão e experiência no mecanismo espécie-fluxo de David Hume

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ABSTRACT:

In his “economic writings”, David Hume developed one of the first versions of the “specie-flow mechanism”. This formulation earned him a place in the literature on the history of economic thought, which tried to place it in the context of the economic discussions prevailing in the transition from mercantilist to liberal doctrines. However, this literature did not pay enough attention to the author’s philosophical motivations and the role that his “economic writings” played in his philosophical project. In this paper, we address this field by studying how the specie-flow mechanism evokes problems that Hume had faced in his inquiry into the nature and origin of the notion of causal law. This will allow us to discuss the role that Hume tried to assign to “experience” and “reason” in the elaboration of knowledge in general and of economic phenomena in particular.

KEYWORDS: David Hume, Specie-flow mechanism, Causal laws, Economic laws.

RESUMEN:

En sus “escritos económicos”, David Hume desarrolló una de las primeras versiones del “mecanismo especie-flujo”. Tal formulación le valió un lugar destacado en la literatura sobre historia del pensamiento económico, que la ubicó en el marco de las discusiones económicas prevaletentes en la transición de las doctrinas mercantilistas a las liberales. Sin embargo, esa literatura no prestó suficiente atención a las motivaciones filosóficas del autor y al lugar que los “escritos económicos” ocuparon en su proyecto filosófico. En el presente trabajo, nos proponemos atender ese campo estudiando en qué sentido el mecanismo especie-flujo evoca problemas a los que se había enfrentado Hume al reflexionar sobre la naturaleza y el origen de la noción de ley causal. Esto nos permitirá discutir el papel que Hume procuró asignarle a la “experiencia” y a la “razón” en la elaboración del conocimiento en general y de los fenómenos económicos en particular.

PALABRAS CLAVE: David Hume, Mecanismo especie-flujo, Leyes causales, Leyes económicas, Economía política.

RESUMO:

Em seus “escritos económicos”, David Hume desenvolveu uma das primeiras versões do “mecanismo fluxo-espécie”. Tal formulação lhe valeu um lugar de destaque na literatura sobre a história do pensamento econômico, o que o colocou no marco das discussões econômicas prevaletentes na transição das doutrinas mercantilistas para as liberais. No entanto, esta literatura não prestou atenção suficiente às motivações filosóficas do autor e ao lugar que os “escritos económicos” ocupavam em seu projeto filosófico. No presente trabalho propomos abordar este campo estudando como o mecanismo fluxo-espécie evoca problemas que Hume enfrentou ao refletir sobre a natureza e a origem da noção de lei causal. Isto nos permitirá discutir o papel que Hume tentou atribuir à “experiência” e à “razão” na elaboração do conhecimento em geral e dos fenômenos econômicos em particular.

PALAVRAS-CHAVE: David Hume, Mecanismo fluxo-espécie, Leis causais, Leis económicas, Economia política.

INTRODUCTION

David Hume published his celebrated essays on political economy as part of his *Political Discourses* in 1752. They positioned him as one of the great thinkers of his time and as a prominent figure on political economy issues.¹ As Hume himself says in his autobiography, it was the only work of his that was successful on its first publication. The contrast was clear with *A Treatise of Human Nature* (1739-40), “dead-born from the press”,

² and his later attempts to rewrite his ideas in *An Enquiry Concerning Human Understanding* (1748) and in *An Enquiry Concerning the Principles of Morals* (1751), which also failed to achieve the recognition Hume expected.³ The *Political Discourses*, on the other hand, quickly generated great interest in both Britain and continental Europe⁴ and had a profound impact on the economic thinking of its time⁵ and well into the 19th century.⁶

It was Kant who first changed the history of the reception of Hume's philosophical work⁷ by confessing that Hume's "attack" on the concept of causality (and thus on metaphysics) had awakened him from his "dogmatic slumber". Eventually, Hume became one of the most important English-speaking philosophers (a title he still holds). The *Treatise* and the *Enquiries* became his most celebrated works, and his economic essays took a back seat.⁸

Because Hume's work covers what are now considered distinct disciplines, different angles of his work were addressed separately in the field of historiography.⁹ Indeed, the scholarly tradition has generally split Hume "the philosopher" from Hume "the economist".¹⁰ Thus, historians of economic thought have usually focused on the study of what are considered his economic writings and tend to elude Hume's philosophical contributions.¹¹ In this regard, Rotwein pointed out that the literature, with rare exceptions, had treated Hume's economic analysis as an isolated compartment of his thought.¹² In this context, even though the so-called specie-flow mechanism has received a great amount of attention from economists, most of the studies did not pay enough attention to the author's philosophical motivations and the role that "economic writings" played in his philosophical project.

In this paper, we aim to address this field by studying how the specie-flow mechanism evokes problems that Hume had faced in his inquiry into the nature and origin of the notion of causal law. We believe this will allow us to better understand the relationship between the author's "economic" writings and his "philosophical" writings, and, more generally, the philosophical roots of the enlightened political economy. In particular, it will give us the opportunity to focus our attention on a conceptual problem transversal to all fields of the philosophical project of the Enlightenment, including its incipient political economy: the role of "experience" and "reason" in the elaboration of knowledge in general and of economic phenomena in particular.

Even though Hume does not explicitly refer to his philosophical disquisitions on the idea of causality in his economic writings, we will try to show in which way he had to deal with the problem of causality, the origin and scope of ideas and the relationship between intellectual constructions (the world of reason) and the perceivable world (the world of senses). That is, as part of a retrospective reconstruction enterprise, and knowing that it has not been explicitly raised by Hume himself, we will argue that his specie-flow mechanism is based on economic causal laws, such as the law of supply and demand, the law of one price and the quantitative theory of money. These laws, understood in a strict and retrospective sense, are intellectual constructions that do not refer to or derive directly from the perceivable world. Not only will we try to discuss in what sense the problem of causality, the concept of law or the concept of theory concern political economy, but we will also try to find in Hume's economic thought relevant clues that may enrich the study of the dilemmas Hume faced in his philosophical work. We will work on a hypothesis rarely explored in the studies of Hume's work in the field of the history of economic thought: that studying his economic writings feeds back into the study of problems that the author developed in the philosophical field.

The work is structured in three sections. In the first section, we reconstruct Hume's specie-flow mechanism focusing on the causal economic laws at play. In the second section, we summarize the main arguments of Hume's inquiry into the concept of causality expounded in the first *Enquiry* and explore its relationship with the specie-flow mechanism. Finally, we set out some conclusions.

HUME'S SPECIE-FLOW MECHANISM AND CAUSAL LAWS

In the essay entitled "Of the Balance of Trade", Hume develops a general argument to show that the mercantilist's concern about the outflow of precious metals as a result of a deficit in the balance of trade was unfounded.¹³ To that end, he poses a simple mental exercise: to imagine that four-fifths of Great Britain's gold disappeared in one night.¹⁴ What would, *ceteris paribus*,¹⁵ the effect be? The same number of mercantile transactions would have to be carried out with one fifth of the means of circulation. Since money was for Hume a simple mediator of circulation, the prices of commodities, denominated in precious metals, would fall proportionately within the nation. What would then happen, Hume explains, extending the analysis to the whole system, is that the prices of commodities within the nation would be lower than those abroad, resulting in a gain of international competitiveness and, therefore, an increase in exports and/or a fall in imports. This situation would bring the gold that was lost back to the nation.¹⁶ The reverse process would occur if Great Britain's gold was multiplied "by magic" (as a theoretical assumption) overnight.

Now, it is evident, that the same causes, which would correct these exorbitant inequalities, were they to happen miraculously, must prevent their happening in the common course of nature, and must forever, in all neighboring nations, preserve money nearly proportionable to the art and industry of each nation. All water, wherever it communicates, remains always at a level. Ask naturalists the reason; they tell you, that, were it to be raised in any one place, the superior gravity of that part not being balanced, must depress it, till it meet a counterpoise; and that the same cause, which redresses the inequality when it happens, must forever prevent it, without some violent external operation.¹⁷

The increase of money within a nation with a trade surplus causes an overall increase in prices which results in a loss of international competitiveness. This leads to a fall in exports and/or an increase in imports that sooner or later rebalances the balance of trade, interrupting the influx of precious metals. Since the trade surplus quickly triggers a rebalancing process, mercantilist policies were at best ephemeral and useless in the long run.¹⁸

Hume was beginning to interpret as an economic law the set of "automatic forces" that tend to establish a "natural distribution of money" among the world's trading countries such that exports come to match imports.¹⁹ That is, as a result of the empire of these forces, imbalances in trade balances unleash a process of adjustment until each nation reaches a new equilibrium. If the amount of gold is greater than that corresponding to the equilibrium condition, it flows out of the nation. If, on the other hand, it is less, it flows in. Hume used the metaphor of communicating vessels to illustrate this self-regulatory mechanism which came to be called the specie-flow mechanism. Just as any body of water within a container can rise above the level of the surrounding container only if the former has no communication with the latter, it is also necessary for communication to be interrupted in order for a large imbalance of money to endure over time. This impediment, he clarifies, must be "material or physical, for all laws alone are ineffective": no sovereign had enough power to retain money within a nation above its *natural level*.²⁰ In a letter to Montesquieu, in 1749, Hume claimed that money cannot "be raised or lowered anywhere much beyond the level it has in places where communication is open, but that it must rise and fall in proportion to the goods and labour contained in each state".²¹ Therefore, it was useless to pursue an inflow of precious metals into the nation. A legislator seeking economic prosperity should promote commerce and industry and let money adjust automatically in proportion to each nation's industry, since attempts to interfere with its natural level would only be counterproductive.²²

At the same time, trade or money were matters of state concern, in another sense they surpassed the political realm: they obeyed other kinds of *laws*, governed by forces that transcended governments and that were imposed on men.²³ Schabas argued that Hume, inspired by experimental physics, treated money as a natural force: the flux of money was much like the tides, subject to gravitational forces.²⁴ Like other authors

of the time, Hume began to conceive the economic world as being governed by laws analogous to those of nature.²⁵ Galiani, for example, had claimed that the laws of trade corresponded with great exactitude to those of gravity and fluids.²⁶ The mechanism exposed by Hume is a classic equilibrium model, a concept of mechanical physics: if a disturbance is introduced (an input of precious metals, for example) automatic forces are unleashed that lead the system to return to a situation of equilibrium.²⁷

This mechanism, though it may seem to refer to what *empirically* happened in Great Britain or any other nation integrated into the world's commercial system, is in our interpretation a theoretical exercise that, as with any physical model, does not directly correspond to the "empirical world".²⁸ As noted above, Hume strived to present the mechanism in the form of a mental experiment, triggered by a hypothetical decrease in the stock of money.²⁹ As Schabas and Cesarano pointed out, the thought experiment does not correspond directly to the "actual world" and it was not meant to refer to an "actual adjustment process".³⁰ We share with Schabas that the aim of the thought experiment is to establish a relationship between isolated variables, and in that sense, it consists of a logical demonstration that cannot be directly contrasted with empirical evidence.³¹

For the formulation of his argument, Hume relies on causal economic laws incipiently sketched out by previous authors, such as the law of one price, the law of supply and demand and the quantitative theory of money. In 1687, Montanari made a noteworthy attempt to establish what later was to be called Jevon's Law.³² Like Hume, also resorted to the metaphor of communicating vessels to argue that markets were merged into one through an interactive system of stable equilibrium, thus initiating the theoretical fiction of the market as a mechanical closed system.³³ The law of supply and demand was drafted towards the end of the 17th century by Barbon, who tried to *generalize* what had been observed empirically for a long time, that, in conditions of scarcity, prices rise, while in conditions of plethora they go down.³⁴ The first formulations of the quantitative theory of money are usually attributed to Bodin. During the 16th century, in the context of the sharp rise in prices following the discovery of America, it had been pointed out that the rise in prices was mainly due to the increase in circulating gold and many mercantilists adopted the idea that the mass of the means of circulation determined the level of prices.³⁵ Hume is recognized for his articulation of the quantitative theory of money in an "open economy".³⁶

Hume aims to integrate the above laws into a system of market equilibrium. Thus we can conceive Hume as one of the authors who takes a step further in the representation of the economic system without confining it to the borders of any nation, articulating in a compact mechanism, laws that were often interpreted by mercantilists authors as if they were valid within a single nation.

FROM THE SPECIE-FLOW MECHANISM TO THE INQUIRY INTO THE CONCEPT OF CAUSALITY. EXPLORATIONS FOR A JOINT STUDY

Unlike mercantilist authors, Hume was neither a merchant nor a crown advisor. Neither was Hume an economist. As his friend and colleague Adam Smith, he ventures into the field of economic affairs as part of his philosophical inquiry. Both Hume and Smith shared the aspiration of their time for a synthesis of general knowledge that would dispel ignorance and officiate as a guide for the new human world that was emerging, in which the promises of modern society would reign. Political economy was born in that philosophical medium, under the illusion that the development of commerce would bring with it a universal opulence that, as Smith said, would extend to all layers of society if this was "well governed".³⁷ By embracing the development of science and philosophy as the path to individual and social emancipation, the age of the Enlightenment held a series of fruitful discussions about the origin, scope and limits of rational knowledge, and David Hume was undoubtedly a protagonist of these discussions. His research into human

understanding would be the basis for the rest of his scientific research. His progress in that field would have a direct impact on the study of moral, political and economic issues.

Hume's most famous discussion regarding the concept of causality is expounded in the *Enquiry Concerning Human Understanding*. There, Hume makes a distinction between "relations of ideas" and "matters of fact".³⁸ Relations of ideas are "demonstratively certain" and "discoverable by the mere operation of thought, without dependence on what is anywhere existent in the universe. Though there never were a circle or a triangle in nature, the truths, demonstrated by Euclid, would forever retain their certainty and evidence".³⁹ On the other hand, the knowledge of matters of fact is ascertained in a different manner and the nature of its truth is not the same.⁴⁰ What is the nature of reasoning concerning matters of fact? "All reasoning concerning matters of fact seem to be founded on the relations of cause and effect. By means of that relation alone we can go beyond the evidence of our memory and senses".⁴¹ So, how do we arrive at the knowledge of cause and effect?

I shall venture to affirm, as a general preposition, which admits of no exception, that the knowledge of this relation [cause and effect] is not, in any instance, attained by reasonings *a priori*; but arises entirely from experience, when we find, that any particular objects are constantly conjoined with each other.⁴²

But, "our conclusions from that experience are *not* founded on reasoning, or any process of the understanding".⁴³ We experience constant conjunctions between particular objects, but why should that experience extend to future times and other objects?⁴⁴ All experimental conclusions proceed upon the supposition that nature always follows uniformly the same course,⁴⁵ but that is in no way demonstrable. Hume claims that the principle that induces the mind to expect, for the future, a similar train of events to those that have appeared in the past is custom or habit.⁴⁶ It is custom which gives rise to the *belief* in necessary connections.

After a repetition of similar instances, the mind is carried by habit, upon the appearance of one event, to expect its usual attendant, and to believe, that it will exist. This connection, therefore, which we *feel* in the mind, this customary transition of the imagination from one object to its usual attendant, is the sentiment or impression, from which we form the idea of power or necessary connection (...) "When we say, therefore, that one object is connected with another, we mean only, that they have acquired a connection in our thought, and give rise to this inference, by which they become proofs of each other's existence."⁴⁷

Thus, in the *Enquiry Concerning Human Understanding*, Hume questions the rational (and thus true and universal) character of the principle of causality on which both the metaphysical systems of the 17th century and the theories of the natural sciences were based, including the most famous of them all: the Newtonian theory of the physical world. However, at the same time, he points out that it is not possible to prescind from the idea of causality and together with it what later authors would call the *axiom of the uniformity of nature*.⁴⁸ That is, the presumption of the repetitive character of nature, thanks to which the mind can establish regularities and causal connections.

The difference between reason and imagination deserves some attention in Hume's discussion of causation. Hume seems to identify reason as a specific case of the operation of imagination. Reason plays a fundamental role in comparing ideas, establishing philosophical relationships, and in demonstrative knowledge.⁴⁹ But if reason reveals necessary and absolute truths, then it is not reason that conceives causal relations between matters of fact. Instead, imagination plays a role in the formulation of these laws. Hume intends to prove it is not possible to unravel ultimate, necessary connections between objects of experience but, at the same time, to show it is not possible to do without the idea of causal laws, without which it is not possible to transcend immediate experience.

Even though Hume himself does not evoke his philosophical disquisitions regarding causal laws in his economic writings, we recognize in retrospect that he also must deal with the concept of causality when

formulating the specie-flow mechanism. In fact, we interpret he stands on causal economic laws that govern a worldwide economic system, which does not directly refer to or deduct from any perceptible object. Hume represents a system of international trade governed by mechanical laws of equilibrium. In this sense, as Streb pointed out, we think that the causal relations underlying the mechanism do not refer to what Hume identifies as matters of fact, but to a hypothetical world that Hume builds.⁵⁰ Thus, also as Streb indicates, Hume seems to be developing what he considers as relation of ideas. However, unlike Streb, we believe that Hume does not appeal to this type of reasoning due to “poor data”, but as a theoretical need that is recognizable in the history of economic thought in order to comprehend an object (capitalist system as whole) which is not empirically perceivable. Most authors of modern economic thought, except for some philosophers such as Hume or Adam Smith, proceed to develop economic concepts without directly discussing whether these are ideal or empirical. This is the problem that today, in retrospect, we are working on.

CONCLUSIONS

At the time Hume wrote, a separation between political economy and the rest of the so-called social sciences and between social sciences and philosophy had not yet been consummated.⁵¹ These divisions are present in the study of his work in the field of economics as a discipline, mainly through the “dissection” of the “economic part” of his complete works. In the field of the history of economic thought, the “economic” aspects of his work have been generally interpreted in an isolated way, assuming the autonomous character of political economy. The economic writings were part of a complete system of the sciences that Hume intended to develop. Only the *ex post* dissection of the “economic part” allows economists to ignore the *Treatise and the Enquiries*, as well as his research into the concept of law and causality.

On the contrary, the study of the *Political Discourses* in the context of Hume’s philosophical project requires reflection on these questions and problems which for the author could not be ignored in any way when dealing with economic matters. To that end, in this work we began to explore Hume’s specie-flow mechanism together with his inquiry into the concept of causality. When we consider some of Hume’s philosophical challenges, new dimensions emerge, as the role of causal laws in economic theory, the relationship between theory and the “empirical world”, or the objectivity of intellectual constructions. It also provides an opportunity to rethink the common roots of political economy and other fields of social sciences and philosophy. We believe that the role of this work lies in indicating an open field of research, into posing questions and problems rather than providing answers.

In particular, we consider that it becomes central to approach Hume’s specie-flow mechanism and his research into causality together in order to reconstruct how the author treated the relationship between the “world of reason” and the “world of the senses”. We argue as a hypothesis that Hume also had to deal with this problem in his economic writings and, more generally, that this is an issue that concerns the history of economic thought. We believe that formulating and understanding this dilemma will help to clarify the tension that we understand is not exclusive to Hume but, on the contrary, appears and reappears throughout the history of modern economic thought: the tension corresponding to the relation between general economic theories and empirical economic phenomena (the latter, for several authors and schools correspond to the world of “policy prescriptions”).

REFERENCES

- Tatsuya Sakamoto, “Hume’s Economic Theory”. In *A Companion to Hume*, ed. by Elizabeth S. Radcliffe (Malden, MA: Blackwell Pub, 2008), 374.

- David Hume, "My Own Life". In *Essays, Moral, Political, and Literary*, rev. ed. by Eugene F. Miller (Indianapolis, IN: Liberty Fund, 1987), xxxiv.
- Ernest Campbell Mossner, *The Life of David Hume* (Oxford: Clarendon Press, 1970), 612.
- Charles Loic, "French 'New Politics' and the Dissemination of David Hume's Political Discourses on the Continent". In *David Hume's Political Economy*, ed. by Carl Wennerlind and Margaret Schabas (London; New York: Routledge, Taylor & Francis Group, 2008), 181.
- They were republished more than seventeen times in five languages in the next fifteen years, Loic, 181. In this regard, Steuart says in 1767: "Mr. Hume has extended the theory and diversified it prettily in his political discourses; which have done much honour to that gentleman, and drawn the approbation of the learned world so much, that there is hardly a nation in Europe which has not the pleasure of reading them in its own language", as cited in Rebeca Gomez Betancourt and Matari Pierre Manigat, "James Steuart and the Making of Karl Marx's Monetary Thought", *The European Journal of the History of Economic Thought* 25, no. 5 (September 3, 2018): 10, <https://doi.org/10.1080/09672567.2018.1482938>.
- Carl Wennerlind and Margaret Schabas, eds., *David Hume's Political Economy* (London; New York: Routledge, Taylor & Francis Group, 2008), 1.
- Scott Gordon, *The History and Philosophy of Social Science* (London/New York: Routledge, 1991), 121.
- Robert W. McGee, "The Economic Thought of David Hume", *Hume Studies* 15, no. 1 (1989): 184; Eugene F. Miller, "Foreword". In *Essays, Moral, Political, and Literary*, rev. ed. (Indianapolis, IN: Liberty Fund, 1987), xvi.
- Eugene Rotwein, "Introduction". In *Writings in Economics* (New Brunswick, NJ: Transaction Publishers, 2007), xci; Wennerlind and Schabas, *David Hume's Political Economy*, 1.
- Margaret Schabas, *The Natural Origins of Economics* (Chicago, IL: University of Chicago Press, 2005), 60.
- Tatsuya Sakamoto and Hideo Tanaka, *The Rise of Political Economy in the Scottish Enlightenment* (Londres: Routledge, 2005), 2.
- Rotwein, "Introduction", xci.
- "There still prevails, even in nations well acquainted with commerce, a strong jealousy with regard to the balance of trade, and a fear, that all their gold and silver may be leaving them. This seems to me almost in every case a groundless apprehension (...) and as it can never be refuted by a particular detail of all the exports, which counterbalance the imports, it may here be proper to form a general argument, that may prove the impossibility of this event". David Hume, *Essays, Moral, Political, and Literary*, rev. ed. (Indianapolis, IN: Liberty Fund, 1987), 309, 311.
- Hume, *Essays, Moral, Political, and Literary*, 311.
- Hume, *Essays, Moral, Political, and Literary*, 311.
- Ibid.*, 312.
- Ernesto Screpanti and Stefano Zamagni, *An Outline of the History of Economic Thought*, 2nd ed. rev. and expanded (Oxford; New York: Oxford University Press, 2005), 40.
- Mark Blaug, *Economic Theory in Retrospect*, 4th ed. (Cambridge; New York: Cambridge University Press, 1985), 13.
- Hume, *Essays, Moral, Political, and Literary*, 312–13. "Wherever I speak of the level of money, I mean always its proportional level to the commodities, labour, industry, and skill, which is in the several states. And I assert, that where these advantages are double, triple, quadruple, to what they are in the neighbouring states, the money infallibly will also be double, triple, and quadruple". *Ibid.*, 315.
- David Hume, *Writings on Economics* (New Brunswick, NJ: Transaction Publishers, 2007), 189.
- Margaret Schabas and Carl Wennerlind, "Retrospectives: Hume on Money, Commerce, and the Science of Economics", *Journal of Economic Perspectives* 25, no. 3 (August 2011): 219, <https://doi.org/10.1257/jep.25.3.217>; Wennerlind and Schabas, *David Hume's Political Economy*, 113.
- Schabas, *The natural origins of economics*, 2-3.
- Margaret Schabas, "David Hume on Experimental Natural Philosophy, Money, and Fluids", *History of Political Economy* 33, no. 3 (2001): 411–35.

Margaret Schabas, "Temporal Dimensions in Hume's Monetary Theory". In *David Hume's Political Economy*, Routledge Studies in the History of Economics (London; New York: Routledge, Taylor & Francis Group, 2008), 131.

As cited in Germano Maifreda, *From Oikonomia to Political Economy. Constructing Economic Knowledge from the Renaissance to the Scientific Revolution* (Inglaterra: Ashgate Publishing Limited, 2012), 239–40. Newton's theory of universal gravitation exerted a huge influence on the Enlightenment. It contributed to the idea of a self-regulated universe, of a "natural order" governed by mechanical laws. This conception played a key role in the birth of political economy, as the conviction that trade relations were regulated by objective mechanical laws gained ground. Sergio Cremaschi, "Newtonian Physics, Experimental Moral Philosophy and the Shaping of Political Economy". In *Open Economics: Economics in Relation to Other Disciplines, Routledge Studies in the History of Economics* 100 (London; New York: Routledge, 2009), 75–76; Screpanti and Zamagni, *An Outline of the History of Economic Thought*, 66.

Gordon, *The History and Philosophy of Social Science*, 125–26.

"None of the fundamental concepts of natural science can be pointed out as *parts* of sensuous perceptions, and thus verified by an immediately corresponding impression. It has become increasingly evident that, the more scientific thought extends its dominion, the more it is forced to intellectual conceptions that possess no analogues in the field of concrete sensations". Ernst Cassirer, *Substance and Function and Einstein's Theory of Relativity* (London: Forgotten Books, 2015), 227–28.

Schabas and Wennerlind, "Retrospectives," 219.

Margaret Schabas, "Temporal Dimensions in Hume's Monetary Theory", in *David Hume's Political Economy*, Routledge Studies in the History of Economics (London; New York: Routledge, Taylor & Francis Group, 2008), 138. Filippo Cesarano, "Hume's Specie-Flow Mechanism and Classical Monetary Theory: An Alternative Interpretation", *Journal of International Economics* 45, no. 1 (1998): 182.

Schabas, *The Natural Origins of Economics*, 67.

Screpanti and Zamagni, *An Outline of the History of Economic Thought*, 42. "I recall having— usefully from the point of view of clarity—often had recourse in talking about such things to a comparison with fluid bodies, for it seemed to me that the prices of goods in the world find a level among themselves through trade not diversely from the way stagnant waters do that – whatever agitation they suffer – in the end level out and are flat; and the sea itself cannot have its waves higher in the Adriatic than in the Tyrrhenian, or in the Black Sea or the Ocean itself, if not when its disrupted currents or the movements of its ebb and flow and the various situations of its depths bring on a variation of a few feet on some remote strand (Archimedes, *De incidentibus in fluido*), so that its waters, no less than merchandise, have their perpetual communication over all the universe, so that their own weight obliges them to level out at equal distance from the centre to which they tend". Montanari, as cited in Maifreda, *From Oikonomia to Political Economy. Constructing Economic Knowledge from the Renaissance to the Scientific Revolution*, 140.

Pablo Levín, María del Pilar Piqué, and Ariadna Cazenave, "Ensayo sobre el posible aporte de la economía política a la filosofía de la aspiración", *Revista de Investigación en Economía y Responsabilidad Social* 1, n.º 2 (2018): 8.

Pablo Levín, "Ensayo sobre la cataláctica" *Nueva Economía* 12 (2003): 8, <http://www.economicas.uba.ar/wp-content/uploads/2015/11/Ensayo-sobre-la-Catal%C3%A1ctica.pdf>.

Screpanti and Zamagni, *An Outline of the History of Economic Thought*, 38.

Schabas and Wennerlind, "Retrospectives," 218.

Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*, Glasgow edition of the Works and Correspondence of Adam Smith, RH Campbell and AS Skinner, vol. 2 (Oxford: Oxford University Press, 1976), 22.

David Hume, *An Enquiry Concerning Human Understanding: A Critical Edition*, Reprint, Clarendon Edition of the Works of David Hume, general eds. of the philosophical works Tom L. Beauchamp, vol. 3 (Oxford: Clarendon Press, 2009), 24.

Ibid.

Ibid.

Ibid., 25.

Ibid.

Ibid. 29. "It is only after a long course of uniform experiments in any kind, that we attain a firm reliance and security with regard to a particular event. Now where is that process of reasoning, which, from one instance, draws a conclusion, so different from that which it infers from a hundred instances, that are nowise different from that single one? ... I cannot find, I cannot imagine any such reasoning". Ibid., 32.

"Experience only teaches us, how one event constantly follows another; without instructing us in the secret connection, which binds them together, and renders them inseparable". Ibid., 53.

Ibid., 31.

Ibid., 37–38.

Ibid., 59.

Ernst Cassirer, *El problema del conocimiento en la filosofía y en la ciencia modernas IV: de la muerte de Hegel a nuestros días* (183 -1932), 5.a reimpr. (México, D. F: Fondo de Cultura Económica, 1993), 79.

Gonzalo Carrión, "Imaginación y Acción Humana". In David Hume and Adam Smith, *Supuestos gnoseológico-antropológicos en la configuración de la ciencia económica moderna* (Santa Fe: Universidad Católica de Santa Fe, 2015), 114.

Jorge M. Streb, "Hume: The Power of Abduction and Simple Observation in Economics", *CEMA*, Documentos de trabajo, n.o 417 (2010): 10.

John W. Danford, *David Hume and the Problem of Reason: Recovering the Human Sciences* (New Haven: Yale University Press, 1990), 3; Pilar Piqué, "La obra de Adam Smith en el estudio y en la enseñanza de la historia del pensamiento económico" (PhD Thesis, Universidad de Buenos Aires. Facultad de Ciencias Económicas, 2017), 33; Deborah A. Redman, *The Rise of Political Economy as a Science: Methodology and the Classical Economists* (Cambridge, MA: Mit Press, 2003), 103.

NOTES

- 15 An implicit assumption of the exercise is that the number of transactions and the speed of currency circulation remain constant.