



Carl Menger and  
Classical Liberalism

ISSN 2291-5079  
Vol 10 / Issue 5 + 6 2022

# COSMOS + TAXIS

Studies in Emergent Order  
and Organization



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## Introduction

### Carl Menger and Classical Liberalism

GIANDOMENICA BECCHIO

Università degli Studi di Torino

This issue intends to shed some light on the role of classical liberalism in the evolution of Carl Menger's thought about the nature of institutions, in particular market and money, intended as a spontaneous-driven institution, and individual freedom. A special focus will be directed towards his philosophical background, in order to understand whether it influenced his vision on social institutions, individual freedom, and economic policy, and consequently whether they played a significant role in his economic analysis.

The first portrait of Menger as a classical liberal had been depicted by American economist Henry Seager, who spent a couple of academic years as a visiting scholar in early 1890s in Berlin and Vienna, while attending those respective universities. His recollections suggested that Menger was not an isolated classical liberal of the time in Vienna. Rather, he was a mentor of a conspicuous group of economists who combined the principles of classical liberalism with the evolution of the classical school into a new theoretical economic science with became the marginal revolution. Seager considered Menger the leader of the resurgence of classical liberalism after the harsh criticism directed against 'Manchesterism' by the German Historical School. Seager underlined that Menger's classical liberalism was not merely laissez-faire, but mainly a philosophical view that was consistent with laissez faire as well as with some kind of interventionism when required. Nonetheless, Seager admitted that Menger manifested a broad disinterest from economic policy.

According to Seager, Menger's classical liberalism might be compared with Adam Smith's vision of the interaction between market and government. Seager stated that if Böhm-Bawerk had been called the "*Ricardo* of the Austrian School", Menger should be regarded as "the *Adam Smith* of the Austrian School" [Seager's emphasis]. He wrote: "[Menger provided] a general view of economics, an idea not merely of economic principles, but also of the history of economic thought and of economic practice. He introduces his course with a vivid sketch of the characteristic features of modern industrial society, emphasizing especially its dependence upon existing legal institutions" (Seager 1893, p. 255).

As is well-known, Menger was almost forgotten outside Austria between the wars, until Hayek introduced Menger's *opera omnia* to English speaker readers when he moved to the LSE in the early 1930s.

Hayek presented Menger as a conservative classical liberal. He wrote: "Actually, he tended to conservatism or liberalism of the old type. He was not without sympathy for the movement for social reform, but social enthusiasm

would never interfere with his cold reasoning" (Hayek 1934, p. 417). Hayek's judgment of Menger as a conservative classical liberal is reinforced by the recent publication by Schumacher and Scheall (2020). They analyzed the unfinished biography of Carl Menger, composed by his son Karl who described his father as a defender of liberalism against the privileges of the ancient regime, i.e. the aristocracy and the church, as one that presented "a liberal economist, with some conservative leanings" whose conservatism might be more pragmatic than ideological. The authors reported that, according to Menger junior, his father had hoped for the emergence of a conservative party able to prepare a liberal constitution which mediated between the old society and the new democratic movements.

A few years later, in his lecture "Individualism: True and False", delivered in 1945, Hayek reinforced Seager's position on Menger as a follower of Smith's liberalism, by stating that Menger belonged to the tradition of true individualists which started with Locke, Mandeville, Hume, Tucker, Ferguson, Smith, Burke, Tocqueville, and Acton.<sup>1</sup> In Hayek's words: "Carl Menger was among the first in modern times consciously to revive the methodical individualism of Adam Smith and his school" (Hayek 1948, p. 4).<sup>2</sup>

The turning point of a further analysis of Menger's work occurred when Hayek moved to Chicago where, in accordance with Frank Knight, the first edition of Menger's *Principles* (1950) was translated into English for the first time. Knight wrote the introduction. He underlined what George Stigler had already pointed out a few years earlier: although they both praised Menger as one of the most important theorists of subjective value (along with Jevons and Walras), Stigler had regretted "Menger's failure to develop generally the method by which the individual maximizes his want-satisfaction" (Stigler 1937, p. 239), while Knight criticized Menger for having provided "a fallacious view of the economic process [based on] a process of converting goods of higher order in goods of lower order" (Knight 1950, p. 243). None of them outlined a possible reflection on Menger's vision: they remained focus on the analysis of Menger's theoretical contributions rather than on his classical liberal vision.

The same interest for Menger's analytical contribution arose in the 1970s, when the Austrian school renaissance took place, especially reinforced after Hayek had received the Nobel Prize (1974).<sup>3</sup> As Vaughn (1990) rightly stated, the Austrian revival included Menger's theoretical contribution as a whole and not simply his role of being the only founder of marginal utility theory who avoided the adoption of mathematics. In fact, Streissler (1972), Jaffe (1975), and Lachmann (1978) respectively pointed out three fundamental Mengerian elements which have been later developed by economists of the Austrian school: the importance of economic development as an effect of a creative process; the role of ignorance and errors in defining human needs and consequently individual plans; the notion of spontaneous order in determining the evolution of civilization. All these three elements were especially scrutinized by considering Menger's methodological inquiry held in his *Untersuchungen*, which had been translated into English a few years earlier (Menger 1965/1883).<sup>4</sup>

Nonetheless, the connection between Menger's classical liberalism (his vision) and his theoretical inquiry (his analysis) had been somehow ignored or taken for granted until mid-1980s, when some reflections on Menger as a classical liberal emerged, albeit they had been mainly focused on Menger's economic policy rather than on Menger's philosophical outlook. As rightly pointed out by Kirzner (1990), when describing Menger's liberalism related to some potential economic policy agenda, historians of economic thought offered contradictory assessments which went from Menger as a 'champion of laissez-faire' (Boehm 1985; Mises 1969) to Menger as a supporter of state intervention (Streissler 1990), passing through Menger as totally indifferent about economic policy.

More recently, Ikeda (2010) stated that, unlike Mises and Hayek, Menger was a moderate protagonist of economic liberalism. His lectures to Prince Rudolf showed that Menger combined the principles of the Manchester school along with the old German economic thought of the *Cameralwissenschaften*. This combination made him a peculiar classical liberal who supported State intervention in poor countries, while regarding it as superfluous and dangerous in wealthy countries. Furthermore, Menger clearly stated that the improvement of the condition of workers must be added to a government agenda in order to prevent any possible development towards a socialist revolution.

According to Kirzner, Menger was neither a pure laissez-faire theorist nor an interventionist, albeit he believed in the spontaneity of the market and he was sympathetic toward some social instances requiring a sort of redistribution. His position about a conceivable intervention of government converged into the possibility to distribute economic goods only if the institution of property is never questioned. Kirzner's interpretation is reinforced if we consider the second edition of Menger's *Grundsätze* where he explicitly introduced social needs and common goods in order to consider social needs which might be satisfied either by the market economy or by a specific public policy (Becchio 2014).

Though classical liberalism is not just a matter of practice which converges into a specific economic policy agenda; it is a philosophical outlook that covered a primary importance in the genesis of Menger's contribution to social sciences. As Karl Menger junior wrote, his father's liberalism was influenced by the tradition of Austrian philosophy and "its immunity from the extreme form of German metaphysics" (Menger 2009, p. 45). This led him to develop a theory of society which implies the combination of individual freedom with the dynamics of groups by rejecting both atomism and holism, respectively intended as a naïve description of individual agents and as a metaphysical description of social agents. Menger's latest attitude to combine individual plans and social dynamics has been recently developed by GMU economist R. Wagner's 'neo-Mengerian' approach. Wagner introduced the notion of entangled political economy, focused on the network-based framework that is intended as a direct effect of the unintentional coordination of human plans, in order to explain complex phenomena (Wagner 2010; 2020).

As rightly pointed out by economist Sudha Shenoy (2010),<sup>5</sup> Menger analyzed institutions and social forces as the results of individual needs, which are constantly subjected to modifications, and he realized that people were acting on rules that were first manifested in their actions and then articulated in some practice. This is the Mengerian notion of market economy later developed by the Hayekian notion of competition as a discovery procedure (Hayek 1968/2002).

A useful instrument to understand Menger's notion of classical liberalism against the New German Historical School, led by Gustav Schmoller, are two articles, written by Menger in 1890 on the occasion of the centenary of Adam Smith's death, recently translated and introduced by Dekker and Kolev (2016). According to Menger, when Schmoller founded the *Verein für Socialpolitik* (1872) with the intention of establishing a 'third way' between Manchesterism (pure laissez-faire) and socialisms, classical liberalism in German-speaking countries started to fade away, and both the liberal parties in Germany and Austria lost the chance to propose a useful economic policy able to combine individual freedom and some required adjustments, in order to avoid social conflicts. As Menger himself wrote:

The doctrinairism of the one [Manchesterism] and of the other [Verein für Sozialpolitik] have equally distanced themselves from an objective science which recognizes the role of state authority as consisting in the equally important tasks of improving the position of the working class and a just income distribution, but at least to the same degree also in promoting individual industry, thrift, and the entrepreneurial spirit (Menger 2016, p. 487).

This volume tries to consider the fundamental role of classical liberalism, intended as a philosophical vision and as an economic policy, in Menger's analytical contributions, with special attention given to the following elements: his philosophical background and education; his ideas on creativity as a way to understand development, which became central in the following Austrian notion of entrepreneurship; his investigations on social institutions such as money in a new perspective; and his contribution on methodological issues to understand complexity in society.

Cubeddu and Menon introduce the first English translation of five articles written by Menger between 1889 and 1908. Authors presented Menger as a public engaged intellectual and counted him as an exponent of "Josephinian" liberalism<sup>6</sup>. In their introduction to Menger's papers they provide some unknown information concerning Menger's ideas on education, free scientific research and his aversion to the influence of religious power which was heavily affecting the Austrian academia and society. The newly translated articles include the obituary of Crown-Prince Rudolf, which well documented Menger's engagement as a teacher. Menger's desire to train not only his students, but also the future Austrian ruling class as well as

his awareness of the international relevance of the Austrian School appeared evident in *An Interview* (1903). The other three articles by Menger, *Survey on the Catholic University* (1901), *The Conquest of the Universities* (1907), and *The Issue of the Universities* (1908), present Menger's concern about the intellectual and scientific autonomy of Austrian universities and public school threatened by the pressure of the conservatives within the Austrian Catholic Church.

Dekker and Kuchař focused their paper on the central role of knowledge in Menger's analysis of the economic process, long before this was done more widely in economics, by pointing out that Menger's emphasis on knowledge was evident in his view on entrepreneurship and it was central to explain economic growth. The authors argue that knowledge in a liberal society can be thought as an emergent order, which, however, is subjected to a common governance structure. They draw attention to two different types of knowledge in Menger: a shared cognitive knowledge that helps create functional institutional frameworks such as markets (tacit knowledge); an increasingly specialized and differentiated knowledge used in the production of heterogeneous (capital) goods (Menger's higher order goods). Hence, they place Menger within the tradition of the evolutionary endogenous growth theory which goes from Mandeville and Smith, was later developed by Marshall, Young, Hayek, Lachmann, up to the Ostroms' analysis of commons.

Candela and Lambert investigate which was the role of the entrepreneur in Menger's account of the market process. However implicit it might be, they show that Menger's explicit discussion of price theory contains an entrepreneurial element. Authors suggest a more systematic understanding of the Mengerian entrepreneurial activity that incorporates both price-adjusting and non-price adjusting behavior, that allows us to clarify and partially overcome the apparent dichotomy between Schumpeterian and Kirznerian entrepreneurship. In fact, they show that Menger's account of price theory combines not only price adjusting behavior (i.e. arbitrage) but also non-price adjusting behavior (i.e. product differentiation; variations in quantity and quality; institutional innovations).

Pender sketches Menger's theory of money through a network science perspective. After having explained the phenomenon of spontaneous self-organization into a hub-and-spoke network, known as preferential attachment, Pender argues that, by adopting Menger's account of the endogenous emergence of money as a preferential attachment process, monetary economics could be enriched. In Menger's terms, the preferential attachment continues until one good eventually becomes so widely accepted that it is one half of every exchange: what we call money is whatever good evolves into the hub of the trade network. Pender also points out that the spontaneous self-organization of complex trade networks leading to the creation of a medium of exchange bolsters the classical liberal perspective while cautioning against attempts to build such complex networks from the top down.

The last three papers deal with methodological issues in Menger. Robitaille presents the epistemological implications of Menger's distinction between theory and history when he described complex social phenomena and the role of free institutions. Author clarifies some of the philosophical influences on that distinction, i.e. his Aristotelian perspective and his reaction to the German Historical School. Furthermore, Robitaille compares Menger's position with the further developments by Weber and by Mises. Paper by Crespo as well as Campagnolo's rejoinder to Crespo sum up the latest developments on the inquiry about Aristotelianism in Menger. Crespo raises doubts about Aristotelianism in Menger while Campagnolo shows that the role of Aristotle is fundamental in order to understand Menger's philosophical outlook which led him to embrace classical liberalism.

All the contributions in this volume are a new attempt, which never ends to be enriched, to considering the role of classical liberalism in the making of the Austrian school of economics through Menger's philosophical vision. The Mengerian roots of the Austrian classical liberalism combine 'true individualism' and the recognition of the inherently social nature of individuals which requires cooperation, albeit neither intentional nor planned, rather grounded on spontaneous order. The role of the market as an institution that allows human beings to be socially coordinated by facilitating communication through exchange is a symbol of the human capacity to combine individuals' freedom within a social framework.

## NOTES

- 1 For true individualism, Hayek meant a theory that tries to understand the dynamics of society, in order to consider a possible political agenda resulting from this understanding.
- 2 As Horwitz wrote: "Menger bridges the gap between Smith and Hayek by reorienting Smith's discussion of economic progress away from the division of labor alone and toward knowledge more broadly" (2001, p. 86).
- 3 The conference which took place at the South Royalton (1974) is considered the founding meeting of the modern Austrian revival. The conference volume included papers on praxeology and method, the history of Austrian school, capital theory, theory of money, inflation, and the market process (Dolan 1976).
- 4 On this specific point Lachmann criticized Menger for not being subjectivist enough.
- 5 Shenoy was an Indian economist who played a significant role in the Austrian revival. See Becchio (2018).
- 6 Josephinism denotes some reforms, issued by Emperor Joseph II (1780-1790), aimed to remodel Austria by following the ideals of the Enlightenment. Among them, the Edict of Tolerance (1782) which removed restrictions against Protestant and Orthodox Christian believers as well as legal barriers against Jews performing certain professions.

## REFERENCES

Becchio, G. 2014. Social Needs, Social Goods, and Human Associations in the Second Edition of Carl Menger's *Principles*. *History of Political Economy* 46(2): 247–264.

\_\_\_\_\_. 2018. Austrian economics and development: The case of Sudha Shenoy's analysis. *Review of Austrian Economics* 31(4): 439-455.

Boehm, S. 1985. The Political Economy of the Austrian School. In: P. Roggi (Ed.) *Gli economisti e la politica economica*, pp. 243–260. Napoli: Edizioni scientifiche Italiane.

Dekker, E. and Kolev S. 2016. Introduction to The Social Theories of Classical Political Economy and Modern Economic Policy. *Econ Journal Watch* 13(3): 467-473.

Dolan, E. (ed.) 1976. *The Foundations of Modern Austrian Economics*. Kansas City: Sheed and Ward.

Hayek, F. 1934. Carl Menger. *Economica* 1(4): 393-420.

\_\_\_\_\_. 1948. *Individualism and Economic Order*. Chicago: The University of Chicago Press.

\_\_\_\_\_. 1968/2002. Competition as a Discovery Procedure. *The Quarterly Journal of Austrian Economics* 5(3): 9-23.

Horwitz, S. 2001. From Smith to Menger to Hayek: Liberalism in the Spontaneous-Order Tradition. *The Independent Review* 6(1): 81-97.

Ikeda, Y. 2010. Carl Menger's Liberalism Revisited. In: H. Hagemann, T. Nishizawa and Y. Ikeda (eds.), *Austrian Economics in Transition: From Carl Menger to Friedrich Hayek*, pp. 223-249. London: Palgrave Macmillan.

Jaffé, W. 1975. Menger, Jevons and Walras dehomogenized. *Economic Inquiry* 14(4): 511-524.

Kirzner, I. 1990. Menger, classical liberalism, and the Austrian school of economics. *History of Political Economy* 22(S1): 93–106.

Knight, F. 1950. Introduction. In: Menger C. *Principles of Economics*, pp. 9-35. Glencoe: Free Press.

Lachmann, L. 1978. Carl Menger and the incomplete revolution of subjectivism. *Atlantic Economic Journal* 6(3): 57-59.

Menger, C. 1871. *Grundsätze der Volkswirtschaftslehre*. Wien: Wilhelm Braumüller.

\_\_\_\_\_. 1903. An Interview (see this volume).

\_\_\_\_\_. 1923. *Grundsätze der Volkswirtschaftslehre. Zweite Auflage*. Wien: Hölder-Pichler-Tempsky.

\_\_\_\_\_. 1965/1883. *Investigations into the Method of the Social Sciences with special reference to economics*. L. Schneider (ed.). New York: New York University Press.

\_\_\_\_\_. 2016. The Social Theories of Classical Political Economy and Modern Economic Policy. *Econ Journal Watch* 13(3): 473-489.

Menger, K. 2009. *Unexplored Dimensions: Karl Menger on Economics and Philosophy* (1923 -1938). G. Becchio (ed.). Bingley: Emerald.

Mises, L. 1969. *The Historical Setting of the Austrian School of Economics*. New Rochelle: Arlington House.

Schumacher, R. and S. Scheall 2020. Karl Menger's unfinished biography of his father: New insights into Carl Menger's life through 1889. In: L. Fiorito, S. Scheall and C. Suprinyak (eds.), *Research in the History of Economic Thought and Methodology* Vol. 38: 155-189.

Seager, H. 1893. Economics at Berlin and Vienna. *Journal of Political Economy* 1(2): 236-262.

Shenoy, S. 2010. *Towards a Theoretical Framework for British and International Economic History*. Auburn: Ludwig von Mises Institute.

Streissler, E. 1972. To what extend was the Austrian school marginalist? *History of Political Economy* 4(2): 426–441.

\_\_\_\_\_. 1990. Carl Menger on economic policy: the lectures to Crown Prince Rudolf. *History of Political Economy* 22(S1): 107–130.

Stigler, G. 1972. The Adoption of the Marginal Utility Theory. *History of Political Economy* 4(2): 571–586.

Vaughn, K. 1990. The Mengerian roots of the Austrian revival. *History of Political Economy* 22(S1): 379–407.

Wagner, R. 2010. *Mind, Society and Human Action*. New York: Routledge.

\_\_\_\_\_. 2020. *Macroeconomics as Systems Theory: Transcending the Micro-Macro Dichotomy*. London: Palgrave Macmillan.

# Carl Menger, a Public Engaged Intellectual, and Five Translations of His Newspaper Articles

RAIMONDO CUBEDDU  
AND MARCO MENON

University of Pisa

**Abstract:** This paper presents, for the first time in English translation, five writings of Carl Menger that appeared in Austrian newspapers: *Crown-Prince Rudolf* (1889); *Survey on the Catholic University* (1901); *An Interview with Carl Menger* (1903); *The Conquest of the Universities* (1907); *The University Issue* (1908). The introduction outlines a historical contextualization of the pieces. These writings provide some vital information concerning Menger's ideas on education, university, and free scientific research. The first piece is an obituary of Crown-Prince Rudolf, and offers a rich description of Rudolf's educational path and Menger's attitude as a teacher. The other four pieces focus more on Menger's academic activity and his assessment of the Austrian cultural struggle between Catholicism and free research. It appears that, in Menger's view, the spirit of free inquiry and science is fundamentally incompatible with any religious worldview, whenever the latter affects the method of the researcher, and the results of her/his work.

**Keywords:** Carl Menger, Austrian School, Liberalism, Education.

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## INTRODUCTION

There are several reasons that justify the publication of these seemingly minor, secondary, and disparate writings by Carl Menger. One above all shall suffice: attention must be paid to anything that may contribute to shed light on the personality, thought, personal and political vicissitudes<sup>1</sup> of an author who unquestionably stands among the greatest, most innovative and influential economists and social philosophers of all times.

Here we present, in their first ever English translation, an obituary, two short articles on the university, and two interviews published in the Viennese press between 1889 and 1908.<sup>2</sup> Three of these writings are not even included in the bibliography attached by F. A. Hayek to Menger's *Collected Works*. Apart from cursory references, it is reasonable to maintain that these writings went almost unnoticed by historians and scholars. Though they contain no theoretical novelty or rethinking of the theses presented in the main works,<sup>3</sup> they nevertheless reveal interesting aspects of Menger's broader worldview. He was not a "cautious conservative," as Hayek writes in his masterful essay *Carl Menger*,<sup>4</sup> he was a reformer without statist or paternalistic inclinations. Rightfully, Menger can be counted as an exponent of "Josephinian"<sup>5</sup> liberalism. He was recognized as such al-

ready at the time of Prince Rudolf's death (cf. Hamann 2016, p. 81). It was a highly dramatic moment in his life, as it clearly appears from the obituary published in the press the day after the Mayerling incident.

*Crown Prince Rudolf* (1889) appeared anonymously and therefore is not mentioned in the bibliography edited by Hayek. It is an important, heartfelt, and literally suggestive piece. Menger, without ever referring to himself, speaks passionately of Rudolf's education. He describes the Prince's voracious intellectual curiosity, cultural interests, and vast economic expertise; his distance from "Manchesterism"<sup>6</sup> and protectionism; his openness to the modern world and its novelties; his sensitivity for social issues, and his mastery of socialist literature. Menger writes widely about Rudolf's sympathy for the most disadvantaged classes and his intentions to remedy misery and social inequality, reporting details of the trip to England that only an actual companion of the Prince could know. Ultimately, one gets the impression of the grief Menger suffered for his death, and cannot but conclude that the obituary outlines the profile of Menger's "ideal prince," without upsetting the imperial family.

This text not only sheds some light on the life of a man we still know very little about<sup>7</sup>. It also helps to unearth the context in which Menger and the Crown Prince conceived the pamphlet entitled *Der Oesterreichische Adel und sein constitutioneller Beruf* (published anonymously in 1878). It is interesting to observe how, in a court still dominated by Archduchess Sophie (Franz Joseph's mother) and Archduke Albrecht (Rudolf's uncle)—and their well-known conservative ideas about the role of the monarchy and its relations with Catholicism—an unusual decision was taken. The education of the Crown Prince was entrusted not to tutors belonging to the court circle, but to external teachers who would provide him with all the cultural knowledge of his time. The "liberal" inclination of these professors was well known to the Court, and consequently stigmatized. Interestingly, the tutor entrusted with the education of the Prince, Joseph Latour von Thurmburg, was supported by the Empress Elizabeth, but disliked by the Court for his alleged "liberal" tendencies (cf. Hamann 2016, pp. 33, 78-79). We do not know why Latour entrusted two notorious "liberals" such as Adolf Exner (professor of public law at the University of Vienna)<sup>8</sup> and Menger<sup>9</sup> with the task of instructing the Prince in disciplines as important and "politically sensitive" as law and economy. The relationship between the two lecturers and the Crown Prince grew far beyond the mere context of teaching,<sup>10</sup> so much so that Exner considered Rudolf his little nephew (*kleines Nepötchen*) (cf. Coen 2007, p. 85). Similarly, the relationship with Menger brought forth not only the aforementioned pamphlet; the economist also became the companion of the Prince in his educational trips to Silesia, Switzerland, and England. During this tour they visited ports, the British Museum, the Bank of England; they met many bankers and entrepreneurs. In addition to the Empress Elizabeth, who was in England at that time, Rudolf met Queen Victoria, and became friends with the future King Edward VII. Later, on their trip back to Austria, Menger and Rudolf met Isabella II and the French President Patrice de MacMahon in Paris, Emperor Wilhelm I and Crown Prince Friedrich in Berlin (where they also met Otto von Bismarck) (Schumacher and Scheall 2020, p. 175; see also Hamann 2016, pp. 90ff). Once in Vienna, Rudolf and Menger had to face the harsh reactions aroused by the publication of *Der Oesterreichische Adel und sein constitutioneller Beruf*. Brigitte Hamann reports that the pamphlet was written during the stay in England, retells its editorial vicissitudes, and describes the reactions of the conservative newspaper *Das Vaterland*, which on various occasions suggested that the booklet was penned by Menger alone. Contributing to this rumour were, perhaps, the pamphlet's controversial remarks about the difficulty of studying political science in Austria: in particular, we are referring to the part which Hamann identified as specifically written by Menger alone. That criticism in fact reflects old complaints raised by Menger in previous writings, which he had already voiced in the *Separatvotum* of 1873.<sup>11</sup>

Menger was undoubtedly one of the most important personalities Rudolf met during his educational path and intellectual life. Menger helped him to understand the relations between economic and social phenomena, and the importance of scientific innovations; he supported and enhanced his ideas on tolerance, and his repudiation of anti-Semitism and absolutism. Menger was the main source of the social policies presented by Rudolf in his writings,<sup>12</sup> and perhaps also of his religious ideas. Above all, he introduced the

Crown Prince into the circles of the Austrian liberal press.<sup>13</sup> In fact, in 1881 Menger introduced him privately to Moriz Szeps, editor-in-chief and owner of the liberal newspaper *Neues Wiener Tagblatt*. The result was not only a journalistic and political collaboration, but above all an “unseemly” friendship<sup>14</sup> that caused Rudolf many problems at the Court, and raised much criticism against him from the conservative press. As Hamann writes, this criticism manifested itself as a series of virulent attacks against the Crown Prince by anti-Semitic circles. Given Prince Rudolf’s friendship with Szeps, and the pre-eminence of Jews in his inner circle, the conservative press considered him a “servant of the Jews.” Moreover, since he began studying with Menger he always sided unequivocally against the discrimination of the Jews (cf. Hamann 2016, pp. 92-93, e 178ff). So much so that after Rudolf’s suicide, to Menger it “was repeatedly attributed the main responsibility for the Prince’s atheist, democratic, and republican conception of the world,” even if it seems unquestionable that his “Josephinism” was already developed *before* his meeting with the economist. From his early writings, it emerges that the Prince was “an opponent of the nobility, political Catholicism, and absolutism” already before 1876 (the year in which Menger assumed the position of his economics lecturer). As for Menger, in addition to some information about his family and his youthful journalistic activity at the *Neues Wiener Tagblatt* (a newspaper acquired in 1867 by Szeps), Hamann writes that in those years he published many articles in anonymous form. (As a lecturer of the Crown Prince, Menger was not allowed to publish in the newspapers in his own name). He wrote on economic issues, but also on several other topics. In his youth Menger acted as an “editorial secretary for the *Wiener Zeitung*,” and “led a very secluded life, as an authentic scholar; he had no family, and concentrated all his activity on the university and his own library”. He was also “very measured in his criticism of the Court and Austrian society,” “his political views did not appear in his books, but only in anonymous articles published in newspapers” (which are still almost all unidentified). Always according to Hamann, Menger’s inspiring model was the thinker and Freemason Joseph von Sonnenfels. In Menger’s library there are many books of Sonnenfels. There are also “numerous writings against anti-Semitism, the privileges of the Church, and the feudal nobility.” It is interesting to observe that “his social commitment was noteworthy, even far from obvious, for an economist of liberal orientation” (Hamann 2016, pp. 81-82, our translation). Menger’s non-socialist interest for the social question can be also inferred from his detailed review of Friedrich Kleinwächter’s *Die Grundlagen und Ziele des sogenannten wissenschaftlichen Socialismus* (Menger 1885), which contains an indirect but very informative criticism of Marx’s doctrine.

There is no clear information on how much Rudolf’s tragic death and the subsequent controversies influenced Menger’s mood. It does not seem to have had a particular influence on his scientific production, since in the immediately following years he published important essays on currency and money. Perhaps he was bolstered by his unwavering passion for teaching.

Shortly after his retirement in 1903, in an interview for the newspaper *Die Zeit* Menger talks widely about his burning passion for studying and teaching, and the desire to train not only his students, but also the future Austrian ruling class. The center of his activity as a teacher can be naturally identified with the Faculty of Law. Menger devoted much attention to the reform of the faculty’s study plan, often diverging from the prevailing orientations. However, contrary to a widespread academic custom, he did not tailor his reform proposals to his own discipline, though he was aware of the radical innovation fueled by his writings. The theoretical and practical social sciences, as well as the theory of institutions, were profoundly influenced by his groundbreaking works. Like his interlocutors, he did not ignore the strong international relevance of the Austrian School. The brief but meaningful interview we offer in its first English translation under the simple title of *An Interview with Carl Menger* (1903) sheds light on the genesis of the Austrian School. The term Austrian School was introduced disparagingly during the *Methodenstreit*. Menger used the phrase “österreichische Schule von Volkswirten” for the first time in a review in 1889 (Menger 1889; cf. Schulak and Unterköfler 2011, pp. 26-27).<sup>15</sup> This was before the publication of the famous essays by Böhm-Bawerk, *The Austrian Economists* (1891), and by Wieser, *The Austrian School and the Theory of Value* (1891) (Respectively, Böhm-Bawerk 1891 and Wieser 1891), which made the Austrian School known even among non-Germans.<sup>16</sup>

This passion for research and teaching emerges also from three other writings: *Survey on the Catholic University* (1901), *The Conquest of the Universities* (1907), and *The University Issue* (1908). These writings must be read and studied in light of some trends that threatened the intellectual and scientific autonomy of Austrian universities. The transformation processes initiated after 1848 found a first fulfillment with the adjustment of the Austrian universities to the Prussian model (cf. Aichner 2015). The main protagonist of that reform was the Minister of Education Leopold von Thun und Hohenstein, a Catholic conservative capable of combining Prussian modernity with Austrian tradition. He found a balance between full academic freedom and the need to prevent universities from becoming vehicles of revolutionary ideas. While respecting the autonomy of the universities, his prudent political influence managed to control the appointments of professors, thus guaranteeing a certain cultural uniformity for almost a generation. After the end of his mandate in 1860, the university progressively emancipated itself from such influence to become eventually a bastion of "Josephinian" spirit. Things went differently for the public schools. Despite the rupture of the Concordat and the *Reichsvolksschulgesetz* (1868-1869), under the pressure of the conservatives the Catholic Church gradually regained a certain influence on public education. But the public school's "re-Catholicization" process accelerated drastically thanks to the Christian-social party led by the future mayor of Vienna, Karl Lueger.<sup>17</sup>

Founded in 1893, the *Christlichsoziale Partei* was a Christian-oriented mass party that intercepted the fears and interests of the Viennese petty bourgeoisie of German nationality. However, it was neither strictly Catholic nor nationalist. For the Christian-socials, Vienna was indeed a Christian and German city, but it was nonetheless the capital of the Empire. This fact allowed them to occupy a middle-of-the-road position between nationalist and anti-Catholic pressures (the Pan-Germans of the *Los von Rom* movement), and the ultramontanist influences that instead had a strong support in the Catholic suburbs. In fact, the Christianity of the Christian-social was not so much a confessional one, as a cultural and identity-based one. This was not an unambiguous position. The party was essentially centered on the figure of Lueger, an intelligent man of great political cunning, who knew how to make the most of the "Christian-social" characterization of his party, and how to take a position according to the opportunities. Depending on the need, he was able to identify an internal or external enemy, and to gain support in his own favor often resorting to an anti-Semitism as much instrumental as effective.<sup>18</sup> His political vision, which placed the needs of the Viennese "Christian people" at the center, was so flexible that it could simultaneously oppose Social Democrats, Jews, Pan-Germans, liberals, capitalists, and progressive elites who appeared to threaten the socio-economic equilibrium of the Viennese petty bourgeoisie. The academic world, according to his world-view, was ruled by an elite of free thinkers and Jews, and thus was to be considered with suspicion.

To counteract the progressive distancing of the universities from clerical and political control, the Christian-socials supported the project of a Catholic university in Salzburg, an idea in favor of which a *Verein* was formally established in 1884, and that the Austrian episcopate revived in 1901 (cf. Surman 2015, p. 333; Surman 2012, pp. 129, 337, 345-46) arousing a wide debate in the *Neue Freie Presse* in which Menger himself took part. The newspaper conducted a survey about the project and published it on 25 December 1901. The *Neue Freie Presse* interviewed, among others, Friedrich Jodl, Anton Menger, Eugen von Philippovich, and Ernst Mach. Menger's contribution is a first formulation of his conception of the nature and purpose of the university. He clearly and decisively articulates the same "Josephinian" liberal spirit that had reaffirmed itself in the 1870s. Menger supported the clear-cut separation between Church and State, but above all the idea that the university, in order to live up to its task of teaching and research, must be a place of free intellectual activity not predetermined by "an object of knowledge already prescribed in advance in its decisive aspects." Even if it is not explicitly stated, it is possible to suppose that Menger was referring to the dogmas of the Catholic faith which, having already been assumed from the outset as the content of knowledge revealed to man by God, could only be accepted on authority and defended. Obviously this does not mean that a researcher cannot adhere to a confession, or have religious convictions, but these views have no right of citizenship in the context of scientific research. Scientific activity consists exclusively in the search for truth, and the religious views of the researcher must be subordinated to the

needs of this activity. For this reason, while scientists of Catholic faith are clearly admissible, a “Catholic science” or a “Catholic university” are not admissible to the extent that they conceive a confessional characterization of research. According to Menger, scientific research is either free from presuppositions of faith or is not extant.

Lueger’s party progressively managed to gain the support of the local clergy—not without arousing the prudent distrust of the Vatican—thanks to a series of clerically-oriented legislative initiatives between 1904 and 1905 (cf. Sergio 2016, p. 288; Boyer 1995, pp. 164-174).<sup>19</sup> Although these initiatives concerned only the schools and not the university, they were an unequivocal sign of the Christian-social religious and cultural hegemonic plan. The academic world saw itself as neutral towards politics and religion, and aimed at the preservation of the status quo, resisting as much as possible the pressure of student movements that were characterized by increasingly anti-liberal orientations (mainly Pan-German and Catholic in nature, but also socialist and Zionist).

In the summer of 1907, two documents contributed to the escalation of the conflict: the decree of the Holy Inquisition *Lamentabili sane exitu* and Pius X’s Encyclical *Pascendi Dominici Gregis*. Together, they represented a formidable condemnation of modernism, and drew a dividing line that would redefine political alliances in Austria. *Pascendi* harshly condemned what the Pope defined as the synthesis of all heresies, that is, the attempt to reconcile the Catholic faith with modern science and philosophy, in particular with the thought of Kantian derivation. In the eyes of the Catholic teaching this was equivalent to a denial of the supernatural and divine character of revelation, given that the modernists treated religion as a purely human, if not subjective phenomenon (see Vian 2012). Within the liberal and progressive circles the impression was that the Pope was pursuing a radically anti-modern crusade. He claimed the primacy of the dogma of faith and papal infallibility over scientific research, and therefore over the free circulation of ideas.<sup>20</sup> In mid-November, in a cultural and political landscape already agitated by the Encyclical and the clashes between students at the universities of Graz and Vienna, the sixth Catholic Convention<sup>21</sup> took place. Lueger intervened on the 16th and his speech on the need to “re-Catholicize” the Austrian universities, probably one of the most controversial of his career, sparked a series of reactions that contributed to a further widening of the gap between the clerical and anticlerical front. The chain-reaction lead to a reconfiguration of the political conflict along a path that, until that moment, had remained in the background, given the preponderance in the public sphere of various claims of cultural-national character.

In the following days, the liberal and progressive press gave ample space to the reactions to Lueger’s speech. The mayor tried in vain to run for cover with a letter addressed to ten university professors and published on November 21 in the *Neues Wiener Tagblatt*. On November 22 Tomáš Masaryk, who was professor of philosophy at Charles University in Prague and a member of parliament, with an urgency motion asked the government for guarantees against the will of the Christian-socials to stifle the freedom of research in the universities.<sup>22</sup> On November 24, Menger published his article *The Conquest of Universities*<sup>23</sup> which aroused an immediate reaction from the *Reichspost*, a newspaper close to the Christian-socials, although not an official party organ. Almost a year later, a more significant reaction to Menger’s article would appear, namely Alois J. Peters’ book *Klerikale Weltanschauung und Freie Forschung. Ein offenes Wort an Professor Dr. Karl Menger*, a 400 page strong Catholic reply to Menger’s article, which literally rebuts line by line *The Conquest of the Universities*. Peters, a talented apologist, decided to reply to Menger’s little article because the founder of the Austrian School, with “rare cleverness, . . . treated or even just touched upon practically all the aspects for which . . . the ‘clerical worldview’ entails unbearable troubles for the scientific conscience, and for which . . . it seems to be scientifically unsound” (Peters 1908, p. 6).

This is the first book which deals with Menger’s worldview broadly understood. Curiously enough, it does not discuss his economic doctrine, but only his views on religion, morality, and politics, and condemns them as fundamentally flawed. According to Peters, Menger’s social philosophy is based on an unfairly prejudiced rejection of God’s existence, and therefore must be rejected as ultimately arbitrary.<sup>24</sup>

Further reactions by Viennese academic personalities to Lueger's speech were published in the *Neue Freie Presse* of November 26. Among them should be noted at least those of Friedrich Jodl<sup>25</sup> and Ernst Mach. In the first days of December the parliamentary debate following Masaryk's urgency motion took place. It issued in a conciliatory resolution according to which all parties (including the Christian-social party) agreed on the need to guarantee the autonomy of the universities. The issue seemed to be settled for good. But the "Wahrmund affair" was imminent, and all the tensions accumulated in those weeks would explode in the *Kulturmampf* of the following months.

Ludwig Wahrmund<sup>26</sup> was professor of canon law at the University of Innsbruck. Politically close to the German nationalists and a liberal Catholic, he was a member of the *Leo Gesellschaft* which he left in 1902 due to his growing intolerance for the Church. In open contrast to Lueger's speech of November 16, and in the wake of the debate sparked by the Encyclical, in mid-December Wahrmund ventured into a controversy against conservative Catholics in Tyrolean newspapers. Already in this first occasion he expressed himself in a very violent way against his opponents, defining them as "parasites" that should be driven out of the universities by any means. But it was during two public conferences held on January 18 and 20, respectively in Innsbruck and Salzburg, that the tension significantly rose and that Wahrmund became a case of public relevance.<sup>27</sup>

The text of the lectures was published a few weeks later. *Katholische Weltanschauung und freie Wissenschaft*<sup>28</sup> was an openly anticlerical pamphlet in which the Catholic faith was portrayed as retrograde and primitive. The dogma of the immaculate conception, as well as of papal infallibility, were attacked in a rather rude way. Wahrmund, as a university professor, was in effect an employee of the State, and as such he was protected in his freedom of research and teaching. However, since he portrayed the Catholic faith in a demeaning manner, he was perceived as having transcended the boundaries of scientific freedom, committing a crime formally punished by the penal code.<sup>29</sup> The public prosecutor of Vienna had eventually the volume confiscated. Predictably, given the already electric atmosphere after the events of the previous two months, the Catholics reacted with disdain, and vigorously protested in the streets and in the press. The situation worsened when, on March 17, *Das Vaterland* published an interview with the apostolic nuncio Gennaro Granito Pignatelli di Belmonte who declared that two weeks earlier he officially requested Wahrmund's resignation to the foreign minister Alois Lexa von Aehrenthal.<sup>30</sup> The liberal press (above all the *Neue Freie Presse*) began to defend Wahrmund as a champion of scientific freedom, and to attack the "clerical party" as dogmatic and intolerant.

The cultural conflict soon moved to the political level. By now the only distinction possible was the one between clerical and anticlerical, with the result that new tactical alliances between liberals and nationalists emerged. On May 16 the Catholic students occupied the University of Graz to counter the battle cry of the liberal press inciting anti-clerical students to protest if Wahrmund did not return to his teaching after a short period of vacation. The University had to close for the summer semester.<sup>31</sup> On June 1, when Wahrmund's lectures resumed in Innsbruck, Catholic students also proclaimed a strike, and the provincial government had to decide to close the university for the entire semester. Since the suspension of Wahrmund's course was perceived as a Christian-social triumph, the liberal students, joined by the Pan-Germans, proclaimed a general strike that gradually involved all the Cisleithanian universities (Galicia excluded). On 7 June 1908 Menger expressed his opinion on the issue of the universities in an interview for the *Neues Wiener Tagblatt*.

**Crown-Prince Rudolf (1889)**

Kronprinz Rudolf, *Neue Freie Presse*, 31 January 1889, pp. 9-10.

Crown-Prince Rudolf was a young man who had not yet been allowed to play a role in the history of the Empire. Nevertheless, his personality awakened in the populace a realization that noble forces were ripening in this Prince, a prince who in the future would have spread an aristocratic glow all over Austria. Prince Rudolf was a figure who did not go unnoticed in the intellectual life of the country, despite the reserve his rank imposed on him. His person aroused great feelings and raised the splendor of the throne thanks to his penchant for science and art. He absorbed the essence of the modern era; he possessed a sense of the greatness of the present but also of its weaknesses and pains. Even in the last years of his life, he devoted himself with all the energy of his charming personality to the examination of the social question, to which he was driven not only by his duty as the future monarch, but also by compassion for the poor and the miserable. This sentiment arose from the depths of his soul. He wanted to make his own judgment on the great issue that triggers the struggle for the division of earthly goods. He immersed himself in the reading of socialist literature in order to obtain awareness of the duty of a monarch concerning this conflict which convulses all countries, and he made use of the results of careful research. Thus he investigated, surrounded by the most grandiose pomp, the causes of the lament that arose from the deepest layers of society. In the imperial castle, which embodies the highest power and the greatest abundance, the heir to the throne sat and reflected on the needs of the working class.

Prince Rudolf was prepared for such a study by his entire educational path. He was perhaps the first crown prince of Europe to receive a complete economic education. As a boy, when he was mature enough, he devoted himself for two years to the study of economic science at the behest of his father. This teaching was not a trivial affair, as is often the case for the children of princes, equipping them with a purely showy ability: the Crown-Prince had to attend fourteen hours of economic science lessons every week. A love for this science had already been transmitted to him by his educator, Lieutenant Marshal von Latour, a man of great economic learning. The Prince even then had many questions that were raised by the discovery of the laws that determine the development of prosperity. It was remarkable to observe the seriousness with which he followed economic disputes. He relentlessly committed himself to forming his own opinion, and in this effort he was supported by a penetrating interpretative ability and a memory that permitted him to remember every single fact and every single number. Lessons included theoretical economics, economic policy, the science of finance, and Austrian and European statistics. In these lectures the greatest freedom prevailed. Even when an interest for the most zealous care of national interests was impressed upon him, he was nevertheless presented with the fundamental doctrines of economic science in total absence of prejudice and with an approach as much distant from the Manchester School as from protectionism, whose sole purpose was, and remained, the truth. This knowledge of economic laws exerted a strong influence on the character and on the lively mind of the Prince. From his questions and observations it was possible to realize that the young man was already fully aware of his supreme calling. He always brought back the discussion to the connection between the financial situation of a state and its position of power and was tireless in illuminating all aspects of this truly pivotal issue. The thought that a poor budget and a great debt would lead to the weakening of empires never left him, and he listened with curiosity when this subject came up. He was aware of the past history of Austria, and his youthful spirit was seized by concern when fear of a return to a similar condition assailed him. Yet his warm spirit also found a way to express itself in the conversation that often followed the class. Prince Rudolf did not belong to any economic party. He was friend of the people through and through. With a meekness that otherwise only ripens with experience, he always turned his gaze to the torments of the poor and spoke favourably of the methods that a prince could use to curb misery. He was not interested in theory but in the practical possibility of pouring balm on the wounds of society. He wanted to support those who stagger, to relieve the afflicted. With the utmost dedication, he absorbed the essence of economic science, and at seventeen he spent most of his free time composing essays on economic science. Among his papers one could find about forty of these essays, which often deal

with topics of a very practical nature. He wrote a treatise on the defense of woods from devastation; on the connection between the forest law and the law on hunting; on the improvement of vine cultivation; on the necessary measures against the spruce bark beetle; on the condition and reform of agriculture. His literary ability was already manifesting itself even then, and he knew how to embellish the treatment of such sober themes with the golden thread of artistic talent. In these discussions an autonomous spirit revealed itself, which often surprised the reader with unexpected turns and original observations. In addition, the Prince maintained the freshness and naivety of a child. From all his utterances emerged love and reverence for his father, a love kindled by the utmost veneration and an unusual tenderness towards his family. Once he had become familiar with different monetary systems, he was shown a Sovereign, a Napoleon, a Golden Mark, and a piece of eight Austrian florins. He observed them closely and carefully. When the minting technique was discussed and attention was drawn to the perfect execution of the portraits of the individual sovereigns, he said, laughing, "my dad is the most handsome, isn't he?"

The Prince's economic education ended with an examination at which the Emperor was present, and to which the President of the Supreme Court, Anton von Schmerling, the Governor of the National Bank, Privy Councilor Pipitz, and Latour were invited as guests. The Prince was remarkable not only for his knowledge but also for the way in which he expressed his opinions. This showed that he could only absorb those intellectual elements which were authentically part of his training and not those which had been mechanically instilled in him. The Emperor favored his son's inclination for economic issues, and so it was decided that the Prince would make a trip to the great industrialized countries in order to see with his own eyes the progress being made in technical discoveries and industry. First of all, the Prince visited the possessions of Archduke Albrecht in Silesia, which are an unrivaled model of perfect land use. At the time, American competitors had begun to exercise pressure upon European agriculture, and Archduke Albrecht decided to make a major change by switching from cereal to livestock farming. On the fields where wheat was previously planted, grass was sown for forage, and the Prince could see with his own eyes the intense alteration which European agriculture was undergoing. He was tireless in asking questions, carefully observed each machine, let himself be taught about the fertilization systems, went around the fields, and even visited the stables. Archduke Albrecht, however, is also one of the greatest Austrian industrialists. So the Prince visited the ironworks where steel is prepared in giant converters by means of the Bessemer system and then milled into rails. The Prince was subsequently a guest of Count Heinrich Larisch [von Moennich] in Karwin. There he had the opportunity to understand the connection between agricultural industries and farming, to admire systems for the perfect management of property, to visit sugar and alcohol factories, and to enter the deep shafts of a coal plant. After seeing the work of the great industries of Austrian Silesia, perhaps for the first time, he traveled to Switzerland and visited the birthplace of the well-known watch industry. Then he went to England. During these trips, he developed all the gentleness of his way of being. No one could have guessed that that traveler was the son of a powerful monarch. The Prince was always full of youthful serenity and great modesty in front of the men who accompanied him. He showed a great deal of care for the well-being of his assistants. In London he was introduced to a new world, and with unstoppable zeal he tried to examine thoroughly the foundations of the English Empire's power, which rests on countless pennants of ships, on the chimneys that rise everywhere, and on the fabulous domination of steam engines. The Prince was genuinely interested in the traffic of this commercial state. He visited the Bank of England, which mirrored the trade of the whole world. The top officials of the Bank accompanied him on this tour, and the Crown Prince smiled when they handed him and all his assistants a million pound note to arouse in his spirit a notion of the wealth of this institution. Then he visited the famous Glyn bank where he learned about the business system of a great English private bank. He was shown the books in which were recorded millions of deposits entrusted by the public to such an institution; he caught a glimpse of the enormous scale of the business undertaken by such a company. He went to the harbor, visited the great ocean-going ships that make trade with tropical countries possible, and spent many days at the British Museum. The endurance of the Crown Prince manifested itself very clearly during a visit to this famous institute. Two ornithological collections were exhibited in a huge room, and the director of the institute reviewed

the first series, which he believed to be the most interesting, with the Prince alongside him. Prince Rudolf carefully observed the birds of distant lands. The hours passed by, the whole company was exhausted, and only the Prince fully maintained his endurance. At the end of the first series, the company hoped that the Prince might feel the need to rest. Instead, he said, "and now, let us see the second series." Full of surprise, the Englishman exclaimed, "I never saw such tenacity in a Prince before." After London, the prince visited the most important industrial cities of Great Britain and the factories of the famous pioneers of the English industry. In Bradford the Prince met one of the captains of English industry. In England everyone knows the name of Mr. Salt. Born to a needy family, Salt owes his immense wealth to a stroke of good luck. For some time it had been considered impossible to use Peruvian sheep's wool in spinning. For this reason, a certain company, which had tried in vain to do so, was on the verge of failure. But one day Salt showed up to buy all its supplies of wool. The scene of this negotiation is described in a novel by Boz (Charles Dickens). Partly out of pity, and partly in jest, they sold the supplies to Salt at a ridiculously low price. He worked on it and made a fabric which he called alpaca, because sheep in Peru are called so. Salt gained enormous wealth which he used with unparalleled generosity to help the poor. The Prince also visited the factory of a man who had followed a similar path in life: the Lister plant, which is also in Bradford. Lister worked in vain for a long time to invent a machine that, by combing the woolen thread, could replace physical with mechanical strength. After spending many years in fruitless experiments, he was on the verge of despair. But one evening he observed the way his daughter combed her long blond hair before going to bed. Suddenly he had the idea of building a machine that imitated the shape of the comb, and thus the huge English worsted yarn industry was born. Later, Lister made another epochal invention. Scraps from silk production were usually thrown away and had no use. Lister built a factory to spin and weave these scraps into fabrics that were soon used throughout England. Thus the silk fleece industry was born. The Prince met yet another of these heroes of English industry. John Brown, also of humble origins, with the support of Napoleon, had discovered a procedure for milling large plates of enormous thickness. Almost all the navies of the world were armed by him. The Prince also visited the port of Liverpool and discovered something new every day. He visited a spinning mill and a steel mill in Sheffield. Nor did he remain a stranger to English intellectual life. He was a guest of the universities of Glasgow and Edinburgh, and so great was the sympathy that the heir to the throne aroused in the Scottish students that he was surrounded by an almost dangerous crowd of students and members of the public. He was always committed to broadening the scope of his knowledge and also visited Pentonville prison, which is organized according to the Pennsylvania system of individual cells. The Prince asked the inmates the reasons for their detention and was very surprised when most of them replied that they were convicted for arson. Once the tour was over, the director of the penitentiary remarked, "the poor believe it is more honorable for them to serve a sentence for arson; in truth they are murderers and thieves for the most part." The Prince also visited Dublin, the capital of Ireland, and, full of the impressions received in Great Britain, he traveled back home via Boulogne, Paris, and Berlin. Originally, he also intended to travel to southern Europe, but, in France, news of the passing of his grandfather, Archduke Franz Karl, reached him.

These studies and travels laid the foundations of the Prince's political and economic ideas. In his heart lived a desire for justice that made all the privileges of the social classes repugnant to him. The scion of the proudest and noblest lineage felt and thought like a citizen. A strong sympathy bound him to the men who maintained the State with their spirit and their work, and the greatest thing we can say about him is that he loved the people, whom he was meant to rule, with all his soul. All the hopes aroused by his finely formed personality are now crushed. The loss is so great that lips cannot find any word of consolation. With what fidelity he was attached to Vienna, with what sincerity he praised his country, with what pride the Prince handled the pen, he who one day should have held the scepter! He was surprised by the tragic fate that has already befallen, throughout history, so many friends of the people who stand on the steps of the throne. He wanted to help the poor of the earth, he wanted to mitigate the stark contrasts of the current situation. Now he himself is just as wretched: death, which spares neither the great nor the small, makes everyone equal.

Unspeakable is the grief of such a loss. Austria buries a man who, with daring effort, would have fought for the highest peaks, a man who was a promise for the future of our country.

### **Survey on the Catholic University (1901)**

Die katholische Universität. Eine Enquête, *Neue Freie Presse*, 25 December 1901, p. 4.

That today's State, like the Catholic church, cannot entrust the professional training of its officials to an independent power, that the training of State servants and other officials serving public life is a *politicum* in eminent sense, can no longer be doubted by any impartial observer. Similarly, today's universities are not only institutions for the training of senior officials: they are centers of research, whose most intimate essence is the free longing for truth guided solely by the personal persuasion of the researcher—and not a yearning to pursue an object of knowledge already prescribed in advance in its decisive aspects. Therefore, that an educational institution such as the one planned for Salzburg, an institution that will be, as regards research and teaching, under the control of the episcopate, can be granted the rank and rights of a university, and in particular the right to bestow academic titles and honors, is something that must be seriously questioned.

The view that an institute of this kind is necessary due to the fact that the worldview of the Catholic Church does not find any place in research and teaching in Austrian universities is based on a lack of information. The freedom of teaching and learning that reigns in our universities bestows to any research and teaching orientation the ambit of free activity corresponding to its intrinsic value for science. Counteracting strong faith or its active expression would contradict the spirit and the whole essence of our universities. Catholics of unwavering faith have in fact often held chairs in large numbers at Austrian universities: perhaps they have never been as numerous as today. The idea that these scholars, including some who are a source of pride for science, have somehow been neglected, is so false that rather in fact the opposite is true—clearly within the limits of what is permitted by the law.

The view often spread by the opponents of free research, namely that young people at the universities are deprived of their faith, rests on an erroneous view of the influence that universities in our age have on the religious thought of the university youth. Their influence on professional training and, therefore, on future professional practice, including their influence on the deepening of general culture, is in any case very significant: indeed, decisive. In our age, so many uncontrollable influences are exercised on the religious and political opinions of the students that the universities, leaving on principle the sphere of faith to the individual conscience and to the care of the Church, claim no merit whatsoever as regards the profession of religious faith by some students. But neither do they have any responsibility for it. The universities confront all factions in the religious and political sphere in a completely neutral way.

Only the future will reveal what purpose the educational institution planned for Salzburg will really serve. It is possible that it will find its main task, in accordance with party directives, in the battle against free research and teaching. It is also possible that it will evolve into a kind of boarding school for the children of the families of the higher social classes, especially for those of them who need special help with university studies or a certain leniency with exams. In any case, it won't be a university, namely a higher education institution dedicated to free research and teaching.

### **An Interview with Carl Menger (1903)**

Bei Karl Menger, *Die Zeit*, 19 July 1903, pp. 4-5; Die österreichische Schule, *Die Zeit*, 20 July 1903, p. 4.

He is hard to find. If you come at ten in the evening, he has not yet come home; if you ask at seven in the morning, he has already left. This physical alertness is matched by the intellectual agility of the sixty-three-year-old scholar, whose retirement, officially announced yesterday, caused great chagrin in his circle of students and admirers. I had already given up hope of being able to talk to him before he left, but then I got a letter inviting me to visit him. I met him in his comfortable fourth-floor bachelor flat in Währinger Straße,

with the windows overlooking the Votivpark: airy, large, open, just as he likes it. A sly smile appears on his distinctive face and is reflected brightly in his eyes from behind his glasses. “Yes, now my retirement has come. It was not easy. I still feel vigorous, but I know I can no longer expect too much from my health, and so I want to have leisure and quietude, not for idleness, but for the studies and works that I still want to complete.” When I ask him what these works are about, he prevaricates: “Let’s wait until they are finished.”

Then he goes on to talk about his tenure as a professor, the resignation from which was so hard for him. He said, “I have given myself body and soul to my tenure as a professor. I have been an ardent educator, and I am proud of my pedagogical achievements. My strength lay in recognizing talents and promoting them. Among my students there are some brilliant names: Böhm-Bawerk, Philippovich, Wieser, Robert Meyer, Mataja, and many others who obtained their *Venia legendi* with me. I name them with affection and pride, and my joy for these brilliant new recruits is mixed with a little melancholy for the fact that the Emperor took someone away from me by appointing him minister. But thank God there are still others, and now I can go serenely. Philippovich and Wieser remain: the former is an extraordinary social politician, who stands out as a universalist, that is, as one who unites all orientations together; Wieser, on the other hand, who has been proposed as my successor, distinguishes himself as a theorist and also for his scientific treatment of the problems of public finance. They complement each other.”

Menger’s principal exertions consisted in taking his students by the hand and explaining to them difficult scientific problems. In this he was facilitated by his psychological expertise. “I did not presuppose any prior knowledge in my students. Apart from some notions of Roman and canon law, most of them did not have a correct idea of the social sciences. First, I was concerned with bringing to life the concepts of this science in the light of the historical development, in the form of an interesting and popular lesson.” His method was successful. Menger’s reputation extended beyond Austria’s borders and attracted students from all corners to Vienna, craving knowledge. Today there are “a great many of Mengerians” [*Mengerianer in Menge*] in England, America, and especially in Italy. Jokingly, the scholar says he is “almost more famous in America today than in Austria.”

“But,” he adds, “it was a totally different thing when I started teaching. Foreigners dominated Austrian universities: [Lorenz von] Stein in Vienna, [Bruno] Hildebrand in Graz, [Peter] Mischler in Prague, [Karl Theodor von] Inama [-Sternegg] in Innsbruck. The Austrians bowed to the fame of [Wilhelm] Roscher and had a subordinate role. They simply lacked the ability to assert themselves independently.”

Menger was the first in his discipline to raise Austrian science to a level of equality. Those were years of hard battle. Today the contrasts are blurred, and the Austrian School of Economics founded by Menger has a stature recognized on an equal footing with the others.

To secure his work, Menger was attentive to the new generation. This explains the passionate dedication to his role as professor, the pedagogical subtlety with which he acted so powerfully on the malleable minds of young people. But it wasn’t easy. “Maybe you don’t know how difficult the profession of a university teacher is. The role of professor consumes the man, and this is another reason why I asked for retirement. Exams in the morning, lessons at noon. You leave one room and enter another. Often a professor loses his sense of direction. And perhaps the students also believe that the lesson was prepared without difficulty, since it was easy and entertaining. But just such a lesson requires scrupulous preparation that often keeps you busy for two or three hours. In fact, every example must be chosen with care. Everything must be examined, articulated, and arranged according to a certain point of view.” It was certainly difficult, but Menger got what he wanted. “Once upon a time, when it came to assigning social sciences teaching, people looked around for local teachers in vain; today, there are perhaps more than are required. The direction I have taken has also ensured that local teachers in social sciences are now available not only for universities but also for other educational institutions, for academies of international affairs and diplomats, and so on.”

If in the past the Austrian was looked down on, the fact that the post at the French Academy of Sciences, which remained vacant after the death of Roscher, was no longer entrusted to a German, but to an Austrian—Karl Menger himself—can also be seen as proof of a fundamental change.

When Menger talks about his students he manifests a boundless and warm affection. How he read the soul of the poor exam candidate! The student trembles and stammers and does not utter a word because of his agitation. But there he meets the friendly gaze of the professor's eyes, a brief nod in words, he takes him as if it were by the hand, and—lo and behold!—the student becomes confident, speaks and answers, and passes the exam. Many students will hold a fond memory of Menger.

Menger was not involved in politics. He had neither the time nor the will. But he follows Austrian political affairs with great attention and has harsh words of reproach for his fellow citizens, whom he loves from the bottom of his soul. "Believe me"—his voice sounded almost bitter when he said these words—"the worst enemy of the Germans are the Germans themselves. When talent emerges among another people, it is promoted and exploited, while we Germans repress it." Menger seeks and finds his calling in his profession, in the work in which he has put his efforts and which he has created. He was filled with satisfaction for being able to say to the Minister of Education, "my pride lies in the fact that you let me go because you have someone else. The greatest merit of the university professor consists in taking care that, in time, his replacement is already present."

### **The Austrian School of Economics**

Court counsellor Prof. Karl Menger writes to us:

"I would be really grateful if, in view of the friendly words with which you accompanied my retirement from the University of Vienna, you would allow me to publish the following observations in your prestigious newspaper:

The "Austrian School of Economics" is by no means a personal relationship between teachers and students; it has never been something like this. The members of the group of scholars who are designated with this name are completely independent researchers bound only by certain theories (on which it is not necessary to dwell now). However, they work in different scientific areas, diverge from each other in numerous respects, and do not even remotely follow any authority. Since this group of economists attracted more attention abroad than at home, it was called the Austrian School, a denomination that has therefore become common even in our country.

The effort of this school did not consist in preventing, or even merely complicating, the reciprocal exchange of teachers between Austrian and German universities. I myself have repeatedly proposed foreigners alongside local teachers, and the Vienna Faculty of Law has always adhered to the principle that a more suitable foreign scholar should be preferred to a less suitable and less deserving local one. We have only tried, when necessary, to legitimately claim professorships in our country by means of scientific achievements."

### **The Conquest of the Universities (1907)**

Die Eroberung der Universitäten, *Neue Freie Presse*, 24 November 1907, p. 1.

Free research and its main centers, the universities, have always been a thorn in the side of the representatives of clerical interests. Clericalism rests on a rigidly established conception of the world, which in part corresponds to the childhood of humanity, to the beginnings of civilization. Science, on the contrary, equipped with the most refined research tools and extended to the whole globe thanks to a network of observatories and research centers, proceeds restlessly and tirelessly in its work. Its conception of the world, built on its continuously advancing conclusions, is in constant flux and cannot, for this reason, be in harmony with opinions dating back to a distant past, partly to the Babylonian and Egyptian civilizations and also to a nomadic culture. The contrast between the two conceptions is as deep as can be and is necessarily as ancient as the coexistence of rigid dogmatism and free, progressive science.

The geocentric perspective, that is the doctrine according to which our earth is at the center [of the universe] and man is the end of the whole, necessarily had to be abandoned by the academic world in the light of the new Copernican system. The same thing happened to the doctrine of the flat earth in the light of the explorations of Columbus and his successors who established beyond any doubt the sphericity of the earth. Science, following geological and paleontological researches and discoveries, could no longer remain anchored to the biblical chronology of the formation of the earth and the origin of organisms, just as it could no longer maintain the doctrine of the sinfulness of earning interest on capital and the prohibition of usury in the light of the development of modern commerce and its undeniable needs.

Absolute faith in and uncritical submission to authority, neither mitigated by the testimony of the senses nor by rational reflection—typical of the infantile, nay, old-patriarchal phase of social development—has necessarily become unsustainable in the light of the appeals of Descartes to the intellect and of Bacon to experience as criteria of scientific knowledge.

In this conflict of ideas, science and its representatives have never taken the position of the attacker. Research, in its striving for objective truth free from party interests, has quietly gone on its laborious path. The idea of exploiting the results of research against religion was for the most part foreign to the attitude of the world of scholars. If the results were not in harmony with the dogmas of religious faith, the researchers would make these results public only with hesitation, even with the greatest inner conflicts. We know of numerous examples of researchers and scholars who, in the face of the most cruel threats to life and property, did not betray their conviction. We would therefore look in vain for examples of men of science who, in the face of the most rigid dogmatism, resorted to violence or wiliness.

On the contrary, the clerical parties, when the representatives of free research had scientific reasons for dissent, have all too often persecuted and denounced them and, if endowed with the necessary power, have stolen their offices, imprisoned them, in single cases even tortured and executed them. Their falsity is evident when the representatives of objective research, if the results of their research have become uncomfortable in the eyes of the representatives of rigid dogmatism, are accused of being enemies of religion (or are even denounced as supporters of sedition and subversive ideas) by these most aggressive of all opponents.

Those who do not belong to the world of scholars might rather wonder why the representatives of objective research would show such caution in the face of the rigid dogmatism of individual religious communities. The reason for this lies in the respect that free research shows towards religious views. Such views are not the result of experience and scientific research but originate from the needs of the human soul.

Objective research never was an opponent of religion. At Austrian universities, the theological faculties have the same rights as the secular ones; no one would exert pressure on these faculties. Numerous deans, coming from these faculties, were freely elected. But now imagine the situation that would arise if the party of Dr. [Karl] Lueger actually carried out its program and “conquered” the Austrian universities. Imagine what kind of lectures on history, prehistory, astronomy, geology, paleontology, and so on, would be held at the universities thus conquered.

As for the other attacks waged against the Austrian universities in the context of the Catholic Convention, they were rejected by so many colleagues, and in so lucid a manner, that any other word about them would be superfluous. I just want to answer a single objection, because it represents the main argument with which, in certain circles, consensus is created against universities. Mr. Lueger criticized the students, as has often happened on previous occasions, because they would partly spend their time drinking and playing cards. Which is, if we leave aside the exceptions present in every profession and in all the universities of the world, definitely false. Viennese students—and what applies to them, as far as I know, also applies to students of other Austrian universities—are, like anyone who knows what is required of exam candidates, generally well prepared, eager for knowledge, and laborious. In this respect they are not second to the students of any other foreign university. It is definitely not the students’ fault if Mr. Lueger had the opportunity to observe them only at the tavern. On occasion he might also take the trouble to attend pub-

lic libraries, auditoriums, seminars, and exam rooms. Hopefully, he will discover that he has merely sought out the student who works to certify his knowledge in the wrong places.

Undoubtedly there are, in every profession, more or less efficient and diligent workers. However, the Viennese student, on average, is certainly not one of those to whom any particular criticism can be addressed. Also in this respect, Mr. Lueger missed the target by far.

#### **The University Issue (1908)**

Die Hochschulfrage. Aus einem Gespräch mit Hofrat Professor Dr. Karl Menger, Herrenhausmitglied, *Neues Wiener Tagblatt*, 7 June 1908, p. 2.

Court counsellor Prof. Dr. Karl Menger receives his visitors in his office, sitting at his desk full of books and papers. The *Wahrmund* affair and the *suspension of lectures* at Austrian universities give him a great deal to worry about.

“The *Wahrmund* affair,” says professor Menger, “has undeservedly become a controversy. With his pamphlet, *Wahrmund* did nothing but report what has already been disseminated for decades in popular-scientific literature on the subject in question. Any well-stocked private library houses a book or a pamphlet of similar content. What is remarkable in the case of *Wahrmund*’s pamphlet is only the skillful rearrangement of old material. In addition to this, however, Catholic theologians have demonstrated the presence of objective inaccuracies. The pamphlet would have gone absolutely unnoticed had it not been for some *tactical mistakes* that made the *Wahrmund* case a political one.”

Do you believe, Professor Menger, that in the current situation some specific questions of principle must be resolved, which, according to several interpretations, characterize the case?

“No, I do not think so. To overcome the difficulties in which the Government, the Parliament, and academic circles have now ended up, it is necessary to leave aside all clichés and proceed objectively and logically. *We must restore the discourse on the threat to academic freedom to its proper dimension*. I cannot envisage a campaign of conquest against the universities. Professor Masaryk presented it very clearly in his latest, great speech. Just think of the spiritual and real power available to the universities. On the one hand, universally recognized and certain scientific results; on the other, higher education institutes around the world and academic teachers who constantly work in contact with each other. How much knowledge and how much energy are gathered there! Contrast this with the speech given at the Catholic Convention by Dr. Lueger. I think in that case his temperament took over. Incidentally, the Minister of Education [Gustav] Marchet, who is generally esteemed as an honest and outspoken man, made some convincing statements about academic freedom of teaching at the budget commission.”

“Only two things,” continues Professor Menger, answering our question,

“can be points of reference for the academic authorities in *further discussion of the matter*: the *protection of the autonomy of the universities* and the question of how to *smoothly end the student strike*. The Innsbruck suspension order was justified on the basis of a ministerial rule of 1873. The ordinance exists, but in fact it was almost never observed. In the single faculties this resulted from the necessity of the circumstances. With this weak justification, therefore, very little can be done. But, on the other hand, the *behavior of the Innsbruck faculty was inconsistent*. In April they decided to suspend completely *Wahrmund*’s canon law course scheduled for the summer semester, while later he was given the opportunity to decide whether or not to hold the seminar. All in all, the effort to calm the current atmosphere is reduced to skilled tactics.

The only possibility that remains, after all, is that of a *compromise*. And I believe it will be found. Tactical mistakes have been made, and I guess, from certain indications, that there is awareness that mistakes have been made. *Due to superior necessities, finding a compromise will not be too difficult.*”

## NOTES

- 1 Only recently, drawing on the unfinished and unpublished biography planned by Karl Menger at the end of the 1980s (whose papers are accessible at the “Menger collections at Duke University’s David M. Rubenstein Rare Book and Manuscript Library”), Scheall and Schumacher (2018, 2020) presented some important and valuable information about Menger’s family, life, and the vicissitudes concerning the legal recognition of his son Karl (see also Menger 1994; Becchio 2009).
- 2 On Menger’s activity as a journalist, see Yagi 2011, p. 18.
- 3 Namely, *Grundsätze der Volkswirtschaftslehre* (1871), *Untersuchungen über die Methode der Socialwissenschaften, und der Politischen Oekonomie insbesondere* (1883), *Zur Theorie des Kapitals* (1888), *Geld* (1892). On Menger’s thought and philosophical background, see Cubeddu 2021.
- 4 Cf. Hayek 1992. One can see the best example of it in Menger 1891. Schumacher and Scheall (2020, p. 178) write that Karl “described his father as ‘a liberal economist, with some conservative leanings’”.
- 5 As maintained in Kauder 1959, pp. 63-64.
- 6 “Manchesterism” was a British political and economic movement of the 19th century. Led by Richard Cobden and John Bright, it advocated free trade, *laissez faire*, as well as general economic and political freedom.
- 7 Apart from the essays of Scheall and Schumacher, this gap is filled only partially by Yagi’s already mentioned essays, and moreover by the obituaries written by other “Austrians” who actually knew Menger in person: Zuckerkandl 1911; Mises 1921; Schumpeter 1921; Wieser 1923 (Böhm-Bawerk died in August 1914). We are really looking forward to the biography Scheall and Schumacher are working on.
- 8 On Exner, and on his academically important family, see Coen 2007; Hamann 2016, p. 80.
- 9 On the basis of the already mentioned unfinished biography planned by Karl Menger, Schumacher and Scheall (2020, p. 172) write that it was Latour himself who invited Menger to become the Crown Prince’s teacher, and that “Franz Joseph agreed to Menger’s appointment as his son’s teacher in October 1875.”
- 10 Notes and schemes of these 1876 lectures have been published in Menger 1994.
- 11 See Menger 1887, and cf. Hamann 2016, pp. 49, 101f. On the origin of this writing, see also Schumacher and Scheall 2020, p. 174; Scheall and Schumacher 2018, p. 658.
- 12 Now collected and published in Hamann 1987.
- 13 In particular, on Menger’s collaboration with Crown Prince Rudolf, see Yagi 2011, pp. 26f. Drawing on E. W. Streissler’s introduction to Menger 2004, Yagi also writes that in these lectures one can perceive Adam Smith’s influence on Menger. This appears to be quite questionable, given what Menger himself wrote about Smith in those years. See Menger 2018, a volume comprising all the writings where Menger criticizes Smith’s doctrine.
- 14 This correspondence was published in Szeps 1922. On this theme, apart from the already mentioned essays by Scheall and Schumacher, see Ikeda 2010, p. 16.
- 15 It is important to note that Menger never used the term *Psychologenschule*, nor the term *economia pura* (“pure economy”), which would become quite popular in the later German and Italian debates on the Austrian School.
- 16 This is not a matter of secondary importance. The first edition of the *Grundsätze* was translated into English only in 1950; the *Untersuchungen* were translated in 1963.
- 17 On Karl Lueger, charismatic leader of the Christian-social party and mayor of Vienna from 1897 to 1910, see at least Geehr 1990; Boyer 1995; Boyer 2010.
- 18 According to Boyer (1981), Lueger’s antisemitism was more instrumental than actual. This is not to deny that it involved an extremely dangerous exclusion mechanism. But see also Beller 1989 for a very different interpretation, according to which antisemitism belonged to the very essence of the Christian social ideology.

- 19 For a general reconstruction of the condition of the Austrian Church at the time, see Wodka 1959, pp. 338-63.
- 20 See Arnold and Vian (Eds) 2017. In particular concerning Austria, see in the same volume Sohn-Kronthaler 2017.
- 21 On the *Katholikentage* see Hofrichter 1966, specifically pp. 38f., where Hofrichter presents the context of the Catholic Convention of 1907, and pp. 50f., where he discusses the issue of the university.
- 22 On the fascinating figure of Masaryk, see David 2020.
- 23 This article was mentioned in Coen 2007, p. 243, but the reference is not fully correct. In Cubeddu 2019, pp. 132-134, 191-193, the text is presented in its historical context, and translated for the first time in Italian.
- 24 Peters' book is nowadays difficult to find. The authors of the present article make available a digital copy of the volume to anyone interested. For a historical reconstruction and philosophical analysis of Peters' reply to Menger, see Menon 2021.
- 25 Friedrich Jodl was a moral philosopher known for his anticlerical stance. He was an active member of the *Freie Schule* association. See Fuchs 1984, pp. 149f.; Gimpl 1990; on the *Verein Freie Schule* cf. Boyer 1995, pp. 174-186.
- 26 On the “Wahrmund affair”, the classical source remains Höttlinger 1949; see also Geehr 1990, pp. 188-191; Boyer 1995, pp. 186-211.
- 27 Cf. Surman 2019, pp. 435-439.
- 28 Wahrmund 1908. After a short time the pamphlet received a reply by a Jesuit (Fonck 1908). As it appears from the *Katalog der Carl Menger-Bibliothek in der Handels-Universität Tokio*, Menger had a copy of Wahrmund's book.
- 29 Boyer 1995, p. 192.
- 30 The vicissitude, whose protagonists are the papal nuncio and the foreign minister Aehrenthal, has been reconstructed in detail by Wank 2020, pp. 54-56.
- 31 Cf. Johnston 1972, p. 60; Surman 2019, p. 430.

## REFERENCES

Aichner, C. 2015. The Reforms of the Austrian University System 1848-1860 and their Influence on the Process of Discipline Formation. In: Simões, A., Diogo, M. P., Gavroglu, K. (eds.). *Sciences in the Universities of Europe, nineteenth and twentieth Centuries. Academic Landscapes*, pp. 293-309. Dordrecht: Springer.

Becchio, G. (ed.). 2009. *Unexplored Dimensions: Karl Menger on Economics and Philosophy (1923-1938)*. Bingley: Emerald.

Beller, S. 1989. *Vienna and the Jews, 1867-1938: A Cultural History*. Cambridge: Cambridge University Press.

Böhm-Bawerk, E. 1891. The Austrian Economists. *Annals of the American Academy of Political and Social Sciences* 1(1): 361-384.

Boyer, J. W. 1981. *Political Radicalism in Late Imperial Vienna: Origins of the Christian Social Movement*. Chicago: University of Chicago Press.

\_\_\_\_\_. 1995. *Culture and Political Crisis in Vienna. Christian Socialism in Power, 1897-1918*. Chicago: University of Chicago Press.

\_\_\_\_\_. 2010. *Karl Lueger (1844-1910). Christlichsoziale Politik als Beruf*. Wien: Böhlau.

Coen, D. R. 2007. *Vienna in the Age of Uncertainty. Science, Liberalism & Private Life*. Chicago and London: University of Chicago Press.

Cubeddu, R. 2019. *Individualismo e religione nella Scuola Austriaca. Con in Appendice un articolo di Carl Menger La conquista delle università 1907*. Pisa: Edizioni ETS.

\_\_\_\_\_. 2021. *Il valore della differenza. Studi su Carl Menger*. Livorno: Salomone Belforte.

David, Z. V. 2020. *Tomás G. Masaryk a Scholar and a Statesman: The Philosophical Background of His Political Views*. Budapest: Helena History Press.

Fonck, L. 1908. *Katholische Weltanschauung und freie Wissenschaft: das wissenschaftliche Arbeiten Professor Wahrmunds*. Innsbruck: Rauch.

Fuchs, A. 1984. *Geistige Strömungen in Österreich, 1867-1918*. Wien: Löcker Verlag.

Geehr, R. 1990. *Karl Lueger. Mayor of Fin de Siècle Vienna*. Detroit: Wayne State University Press.

Gimpl, G. 1990. *Vernetzungen. Friedrich Jodl und sein Kampf um die Aufklärung*. Oulu: Universität Oulu.

Hamann, B. (ed.). 1987. *Kronprinz Rudolf. «Majestät, ich warne Sie...»*. *Geheime und private Schriften*. München: Piper.

\_\_\_\_\_. 2016. *Kronprinz Rudolf*. München-Berlin: Piper.

Hayek, F. A. 1992. Carl Menger. 1840-1921. In: *The Collected Works of F.A. Hayek*, Vol. IV, *The Fortunes of Liberalism. Essays on Austrian Economics and the Ideal of Freedom*, ed. P. C. Klein, pp. 61-107. Chicago: University of Chicago Press.

Hofrichter, P. 1966. *Die österreichischen Katholikentage des 20. Jahrhunderts (bis 1933)*. Wien: Universität Wien.

Höttlinger, M. 1949. *Der Fall Wahrmund*. Wien: Universität Wien.

Ikeda, Y. 2010. Carl Menger's Liberalism Revisited. In: Hagemann, H., Nishizawa, T., Ikeda, Y. (eds.). *Austrian Economics in Transition*, pp. 3-20. New York: Palgrave Macmillan.

Johnston, W. M. 1972. *The Austrian Mind: An Intellectual and Social History, 1848-1938*. Berkeley, Los Angeles and London: University of California Press.

Kauder, E. 1959. Menger and His Library. *Economic Review* 10(1): 58-64.

Menger, C. 1887. Separativtum des Professor Dr. Karl Menger betreffend die Stellung der Volkswirtschaftslehre, der Statistik und Staatsrechnungswissenschaft im Studienplan. In: *Gutachten und Anträge zur Reform der juristischen Studien*, erstattet von den rechts-und staatswissenschaftlichen Fakultäten der österreichischen Universitäten, pp. 55-60. Wien.

\_\_\_\_\_. 1889. Nationalökonomische Literatur in Oesterreich. *Wiener Zeitung*, 7 March 1889: 2-4.

\_\_\_\_\_. 1891. Die Social-Theorien der classischen National-Oekonomie und die moderne Wirtschaftspolitik. In: *The Collected Works of Carl Menger*, Vol. III, ed. F. A. Hayek, pp. 219-245. London: The London School of Economics and Political Science, 1935.

\_\_\_\_\_. 1895. Rezension von Friedrich Kleinwächter, «Die Grundlagen und Ziele des sogenannten wissenschaftlichen Socialismus». *Zeitschrift für privates und öffentliches Recht der Gegenwart*, 12(1): 639-644.

\_\_\_\_\_. 1994. *Carl Menger's Lectures to Crown Prince Rudolf of Austria*, eds. Streissler, E. W. and Streissler, M. Cheltenham: Edward Elgar.

\_\_\_\_\_. 2018. *Scambio, valore e capitale. Scritti su Adam Smith*, ed. R. Cubeddu. Torino: IBL Libri.

Menger, K. 1994. *Reminiscences of the Vienna Circle and the Mathematical Colloquium*, eds. Golland, L., McGuinness, B., and Sklar, A. Dordrecht: Springer Science.

Menon, M. 2021. Un'ignorata risposta cattolica a Menger: il libro di Alois J. Peters "Concezione clericale del mondo" e "libera ricerca", del 1908. In: Cubeddu, R., Menon, M. (eds.). *Un altro Menger. Scritti polemici*. Macerata: Liberilibri, pp. 229-286.

Mises, L. 1921. Karl Menger. *Neues Wiener Abendblatt*, 26 February 1921: 1.

Peters, A. J. 1908. "Klerikale Weltauffassung" und "Freie Forschung". *Ein offenes Wort an Professor Dr. Karl Menger*. Wien: Georg Eichinger.

Scheall, S. and Schumacher, R. 2018. Karl Menger as Son of Carl Menger. *History of Political Economy*, 50(4): 649-678.

Schulak, E. M. and Unterköfler, H. 2011. *The Austrian School of Economics. A History of Its Ideas, Ambassadors, and Institutions*. Auburn: Ludwig von Mises Institute.

Schumacher, R. and Scheall, S. 2020. Karl Menger's Unfinished Biography of His Father: New Insights into Carl Menger's Life through 1889. In: Fiorito, L., Scheall, S., Supryniak, C. E. (eds.). *Research in the History of Economic Thought and Methodology: Including a Symposium on Economists and Authoritarian Regimes in the 20th Century*, pp. 155-189. Bingley: Emerald.

Schumpeter, J. A. 1921. Carl Menger. *Zeitschrift für Volkswirtschaft und Sozialpolitik*, 1(1): 197-206.

Sergio, M. L. 2016. Le «imperiose esigenze della conservazione sociale». Il cattolicesimo politico in Austria e nel Tirolo nella corrispondenza della Segreteria di Stato vaticana (1904-1911). *Studi Germanici*, 9(1): 285-347.

Sohn-Kronthaler, M. 2017. "Petrus locutus est per Pium". The Reception of Pascendi dominici gregis in Austria as Reflected in Episcopal Sources (1907-1914). In: Arnold, C., Vian, G., (eds.). *The Reception and Application of the Encyclical Pascendi*, pp. 93-107. Venezia: Edizioni Ca' Foscari.

Surman, J. 2015. Imperiale go-betweener. Józef Dietl und Tomáš Garrigue Masaryk zwischen Imperium, Wissenschaft und Nationalpolitik. In: Buchen, T., Rolf, M. (eds.). *Eliten im Vielvölkerreich: Imperiale Biographien in Russland und Österreich-Ungarn (1850-1918)*, pp. 311-337. Berlin-Boston: De Gruyter.

\_\_\_\_\_. 2012. *Habsburg University 1848-1918: Biography of a Space*. Wien: Universität Wien.

\_\_\_\_\_. 2019. University scandals and the public sphere of Imperial Austria. *European Review of History—Revue européenne d'histoire*, 26(3): 428-452.

Szeps, J. (ed.). 1922. *Kronprinz Rudolf: Politische Briefe an einen Freund 1882-1889*. Wien: Rikola.

Vian, G. 2012. *Il modernismo. La Chiesa cattolica in conflitto con la modernità*. Roma: Carocci.

Wahrmund, L. 1908. *Katholische Weltanschauung und freie Wissenschaft: ein populärwissenschaftlicher Vortrag unter Berücksichtigung des Syllabus Pius X und der Enzyklika "Pascendi Dominici Gregis"*. München: Lehmann.

Wank, S. 2020. *In the Twilight of Empire. Count Alois Lexa von Aehrenthal (1854-1912). Imperial Habsburg Patriot and Statesman. Volume 2: From Foreign Minister in Waiting to de facto Chancellor*, eds. Adlgasser, F., Höhn, M., Knaak, A. Wien: Böhlau.

Wieser, F. 1891. The Austrian School and the Theory of Value. *The Economic Journal*, 1(1): 108-121.

\_\_\_\_\_. 1923. Karl Menger. In: *Neue österreichische Biographie: 1815-1918*, vol. 1, pp. 84-92.

Wodka, J. 1959. *Kirche in Österreich. Wegweiser durch ihre Geschichte*. Wien: Herder.

Yagi, K. 2011. *Austrian and German Economic Thought. From subjectivism to social evolution*. Abingdon-London: Routledge.

Zuckerkandl, R. 1911. Menger, Karl. *Zeitschrift für Volkswirtschaft, Sozialpolitik und Verwaltung*, 19(1): 251-264.

# A Mengerian Theory of Knowledge and Economic Development

ERWIN DEKKER

George Mason University

AND

PAVEL KUCHAŘ

King's College London

**Abstract:** This paper reconstructs Carl Menger's theory of economic development centered around the growth of knowledge. Menger made knowledge central to the economic process, long before this was done more widely in economics. His work draws attention to two different types of knowledge, shared cognitive and institutional frameworks which help create coherent and integrated markets on the one hand, and, on the other hand, private—increasingly specialized and differentiated—knowledge used in the production of heterogenous (capital) goods. We situate Menger's work on economic development in the evolutionary endogenous growth tradition going back to Bernard Mandeville and Adam Smith, and later developed by Alfred Marshall, Allyn Young, Ludwig Lachmann, and others. We use these insights to suggest that one of the crucial questions of economic organization is (1) the complementarity between the two types of knowledge we identify here, and (2) the extent to which knowledge is a part of shared social infrastructures rather than being organized privately within firms and other organizations.

**Keywords:** Economic Growth; Knowledge; Division of Labor; Carl Menger; Endogenous Growth

**JEL Codes:** B13, B15, O10, O43

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## INTRODUCTION

The work of Carl Menger contains no full-fledged theory of economic growth or development. Along with his marginalist fellow travelers he seemed more concerned with micro-foundations and the development of a subjective theory of value. And yet both his theory of higher-order goods which points forward to the Austrian theory of capital as well as his analysis of the emergence of money as an exchange medium there are clear attempts to connect micro-behavior with macro-outcomes.

The first chapter of Menger's *Principles* contains a section in which he outlines how the growth of knowledge leads to progress and economic development. This section notoriously attacks Smith for failing to recognize the importance of the growth of knowledge by focusing nearly completely on the division of labor. The criticism was not for a lack of respect for Smith; Menger lectured to the Crown Prince Rudolf of the Habsburg Empire about Adam Smith and even took young Rudolf on a trip to Scotland to visit some of the places where the Scottish Enlightenment had

flourished (Streissler and Streissler 1994). Menger also felt deeply connected to the liberal plan that Smith had promoted (Menger 2016). Yet, in his theory of economic development, or rather what comes close to it, Menger has a clear target, the theory of economic growth as laid out by Adam Smith. It was not division of labor, argued Menger, but the growth of knowledge that has caused the increase in the wealth of nations.

His critique of Smith might have been a kind of virtue signaling on the part of Menger, who was keen to make an impact on the German economics of his time. Perhaps something else was behind it. In any case what is striking is that underneath the theories of growth of Smith and Menger, there is a similar idea, namely that of the evolution of market societies and increasing returns to scale. In Smith's theory exchanges and the resulting division of labor evolve by extending the scope of markets (Smith 1981). For Menger increasing returns are achieved through the growth of knowledge, which enhances the value of the existing set of resources. These are open-ended processes of development, rather than theories of closed systems (Wagner 2007). In this paper we argue first of all that Menger's theory of economic development as it might be distilled from his work should be placed in the intellectual lineage that runs from Mandeville and Smith, to Marshall, and Allyn Young (Lavezzi 2003). That itself is important because the later neoclassical synthesis has placed marginalism within the equilibrium tradition which came out of Walras. It is well-recognized that Menger sits uneasily in a tradition of equilibrium thinking (Rizzo 1979; Klein 2012). That said, it cannot be denied that within the second and third generation scholars from the Austrian tradition, perhaps most notably in the work of Friedrich Wieser and Hans Mayer there are attempts to integrate Austrian subjectivism into this general equilibrium framework (Caldwell 2002; Klausinger 2015).

Secondly, we argue that a reconstructed theory of economic development which takes into account both Menger's emphasis on knowledge as well as his theory of the spontaneous development of exchange-facilitating institutions such as money adds something to the endogenous growth tradition that goes from Smith to Young and beyond. Within the tradition of endogenous growth there is extensive recognition of the importance of the *organization* of economic activity (Loasby 1999). But the interaction between market-enabling institutions such as the legal framework, of which money can be considered a part, and private activity within that framework has not fully benefitted from the insights contained in the work of Menger.

To develop those insights we build in particular on the idea of the complementarity between different capital goods as developed by Ludwig Lachmann (1947), or to put it more precisely the complementarity between the existing structure of capital goods and the individual capital investments. We use the notion of complementarity, to argue for a mutual dependence and development between shared knowledge infrastructures and private capital investments to arrive at a reconstructed Mengerian theory of economic development. Within that theory complementarity is both the cause of endogenous growth, as well as the limit on economic growth (Baetjer 2000; Dekker and Kuchař 2019).

In this paper we first examine Menger's own perspective on economic development. In section two we place Menger's theory in the tradition of endogenous growth from Smith to Marshall and Young and beyond. In the third section we build on more recent research to highlight the peculiarities of Menger's institutional theory of capital. In section four we suggest how this institutionalist reading of Menger's theory of capital and money naturally gives rise to the idea of economic development based on internally complementary structure of heterogeneous capital goods that exists within a shared cognitive infrastructure which in turn has important complementarities with regard the very structure of capital goods it makes possible.

## I. A MENGERIAN THEORY OF ECONOMIC DEVELOPMENT.

Most of the secondary literature on Menger has focused on his contributions to micro-economics broadly conceived, and rightly so. His major innovations were in the theory of goods, marginal utility, and subjectivism. But equally central to the *Principles of Economics* is the focus on causal relations. In fact, the book opens with that theme. Menger argues that all things are subject to the law of cause and effect:

Human progress has no tendency to cast it in doubt, but rather the effect of confirming it and of always further widening knowledge of the scope of its validity. Its continued and growing recognition is therefore closely linked to human progress (Menger 1950, p. 51).

The Aristotelian theme of causal relations is developed in section five of the first chapter 'On the Causes of Progress in Human Welfare'. In that section Menger elaborates on his theory of economic development in dialogue with Smith's ideas on the division of labor. Menger argues that the division of labor in a closed community with no growth of knowledge quickly runs into its limits, i.e., cannot lead to further economic growth. As an example, he talks about a tribe of hunter-gatherers who engage in an efficient division of labor, but cannot 'develop'. The treatment is arguably somewhat unfair to Smith who was very explicit that the division of labor is limited by the extent of the market, and so recognized such limits himself.

Nonetheless Menger's critique raises an important point since the extent of any market will be constrained, and so the process of development was always in danger of running into its limits. Menger's reading might be influenced by 19th century classical economics as exemplified by Thomas Robert Malthus and David Ricardo who would, unlike Smith, arrive at theories of stagnation and conflict rather than progressive growth (Hollander 2001). Menger suggests that continued growth is possible through the development of higher order goods. The crucial transition, for Menger, from the hunter-gatherer stage to the next stages was that human beings started planning for future needs through the production of higher order goods. Higher order goods are goods that are produced not directly for consumption, but rather to produce consumption goods in the future. As such he can explain the origins of agriculture as the development of higher order goods such as planting techniques, agricultural tools, etc. This requires knowledge, foresight, and planning. As such both knowledge as well the organization of economic activity become crucial in the theory of economic development of Menger.

Streissler has done much to emphasize the fact that development for Menger is as much a quantitative as it a qualitative process. He has gone so far as claiming that the *Principles* is an "enquiry into the diversity of goods" (Streissler 1969, p. 249). Streissler is correct in highlighting the fact that for Menger the process of economic development is one of growing complexity from relatively simple wants to more advanced ones, from lower order goods to higher order goods, and most of all increased variety. As Streissler argued, Menger typically talks of the quality and quantity of goods (Streissler 1972). The growing heterogeneity was more generally believed to be a characteristic of advanced liberal societies in Vienna as demonstrated by Deborah Coen (2007). This qualitative process of increased differentiation is a well-recognized aspect of the division of labor and is extended by Menger to the production of capital goods. Just like the increased division and specialization of labor leads to interdependence, so the increased differentiation of goods leads to interdependence, a point to which we will return below.

Menger thus seems to put the common interpretation of Adam Smith on its head:

The further mankind progresses in this direction, the more varied become the kinds of goods, the more varied consequently the occupations, and the more necessary and economic also the progressive division of labor (Menger 1950, p. 73).

The division of labor is largely the outcome of the growth in knowledge about production, rather than its cause. Menger concludes:

The quantities of consumption goods at human disposal are limited only by the extent of human knowledge of the causal connections between things, and by the extent of human control over these things. Increasing understanding of the causal connections between things and human welfare, and increasing control of the less proximate conditions responsible for human welfare, have led mankind, therefore, from a state of barbarism and the deepest misery to its present stage of civilization and well-being, and have changed vast regions inhabited by a few miserable, excessively

poor, men into densely populated civilized countries. Nothing is more certain than that the degree of economic progress of mankind will still, in future epochs, be commensurate with the degree of progress of human knowledge (Menger 1950, p. 74).

We should ask what type of knowledge Menger talks about. From these passages it is clear that he has the type of causal knowledge in mind, with which he opened his book. Menger discusses the conscious knowledge of the relation between human needs and goods that can satisfy those needs on the one hand, and of the relationships between goods of higher order and consumption goods. Menger does not use the concept of technology to refer to this type of knowledge, but it seems fair to suggest that this type of knowledge equates broadly with what we currently call technological knowledge (the notorious A in the Solow growth model). It is a type of knowledge that economists, including Menger, discuss extensively and yet somehow leave largely unexamined since its content is considered to be outside the scope of economics.

There is, however, also a different strand of thinking about economic development in Menger. A strand in which the type of technical and conscious knowledge of causal processes is far less important. That is the institutional theory, most prominently of the emergence of money. In his book *Investigations into the Method of the Social Sciences* (1883/2009) one can find a broader appreciation of historically grown institutions, based on the work of Savigny and other historical thinkers. Menger makes clear that each historical stage has its 'appropriate' type of money (O'Driscoll 1986). As Hayek has done much to elaborate, these institutions contain a type of historically grown knowledge and functionality that have typically stood the test of time. This knowledge is less conscious. In fact, as Hayek makes clear—carrying forward the work of Menger—individuals and societies might be largely unaware of the benefits of particular institutions which have organically grown and, furthermore, that the lack of complete knowledge of the functions that institutional infrastructures may perform is a necessary feature of the development of extended and impersonal orders (Hayek 1945; 1948). This seems to be true for money, but some scholars would suggest that this is also true for property rights and other aspects of institutional infrastructures (such as language) that foster the division of labor (High 2009).

There is a clear interdependence between these institutional infrastructures and the available set of specific goods at any moment in time. Menger, however, leaves this interdependence unexplored in his *Principles*. After the section on economic development he goes on to discuss the interdependence of different types of primary goods (1.6 Property) but makes no connection between that kind of interdependence and his institutional theory. In an important sense, therefore, there are two elements in Menger's theory of economic development which have remained unconnected. The tension, or potential relatedness of these two elements have been pointed out by different scholars (Hodgson 2004; Garrouste 2008; Braun 2020).

## II. ENDOGENOUS GROWTH FROM SMITH TO ALLYN YOUNG AND BEYOND

The disagreement we encountered between Menger and Smith was over the relative importance of the effects of the division of labor and the growth of technological knowledge. In the work of Allyn Young (1928), we seem to find an important reconciliation between these two theories. Young suggested that the higher order goods which Menger made central in his theory are only economically viable when the market is large enough, and hence the potential for the use of this type of technological knowledge depends on the size of the market. In Allyn Young's theory, growth is a major source of further growth.

In fact, a more sympathetic reading of Adam Smith than Carl Menger's might suggest that Smith is already aware of parts of the self-reinforcing effects of the division of labor (Loasby 1996). His discussion of the subject is interspersed with examples of small improvements made in the method of production by individuals with intimate knowledge of particular steps in the production process. Here Smith built on Bernard Mandeville and other writers who had already emphasized the growing complexity in the division of labor and the evolutionary nature of the growth of the knowledge that resulted from it (Prendergast 2007). One might argue that Menger is more interested in the larger aspects of causal knowledge present

in production processes, and less in the incremental improvements that Smith describes, but it is nonetheless important to realize that Smith did have a more dynamic view than suggested by Menger. In fact, some scholars have suggested that Smith had something close to an endogenous theory of technological change (Richardson 1975; Lavezzi 2003). What is also important to note, is that this dynamic element on what causes the increase in the level of knowledge is largely absent in Menger, who therefore also does not seem to have a fully dynamic account of economic development.

There is another interesting element to Young's theorizing. Like Menger, he was not too keen on the analysis of individual goods, but instead spoke of the 'togetherness' of economic phenomena. A concept which denotes both interdependence and possible complementarity. In the work of Young it is mostly consumption goods that are interdependent, but it is again important to realize that this interdependence is equally relevant for the complementarity of the set of production methods, consumption goods, and the elements of institutional infrastructures within which economies operate. The growth of markets can easily be hampered by constraining institutional elements (an insufficiently advanced medium of exchange, for instance) or indeed advanced by enabling institutional infrastructures (impersonal rules of property and contract). In Young's endogenous theory of growth these elements do not have a one-off effect, but further enable the expansion of markets, and therefore the potential for the growth of knowledge.

It is in fact in the work of Alfred Marshall that we find some attention to the shared infrastructures that integrate different markets (and hence influence the extent of the market as a result). Marshall distinguishes between the differentiating aspects of the market system, that is the further division of labor and knowledge, as well as the wider variety of goods available, and the integrative aspects of the market system (Marshall 1920/2013, p. 201; Lavezzi 2003, p. 90). Among the latter he includes credit markets and the means and habits of communication (which includes transportation). Again, these are not the institutional elements which Menger highlights, a shared monetary system, or an integrated legal framework around the market, but it at the very least hints at the kind of distinction that we also find in Menger's work.

Marshall's distinction between differentiating and integrative elements of markets can be used to reconcile the two different notions of economic development, and knowledge in Menger. There is some knowledge of a technical kind which becomes more refined and specialized (differentiated), that is essentially the knowledge contained in private production processes. But there is also a kind of knowledge in the form of institutional elements which is shared (integrated). Different participants in the economy rely on the same set of supporting institutions, and Marshall's notion of integrative elements of the economy captures that characteristic well.<sup>1</sup> Integrative elements of markets are certainly not restricted to a set of 'supporting' infrastructures such as transportation and communication, they become salient in the institutional elements supporting private exchange: law, language, and money.<sup>2</sup>

### III. MENGER'S INSTITUTIONALISM

Central to the discussion of market enabling institutional elements is the idea of capital. A recent series of publications by Eduard Braun has highlighted that Menger himself seems to have changed his mind, perhaps even repeatedly, on the meaning of capital. Braun (2020) has been particularly interested in the way in which capital theory can serve as bridge between institutional and Austrian economics. A project that has important predecessors. Samuels (1989), Wynarczyk (1992), Garrouste (2008), and others have attempted to rediscover some of these historical institutional elements within the Austrian tradition. Recent years have seen many attempts to reintegrate Austrian economics and institutional analysis, and with some success (Aligica 2014; Boettke 2018), although substantial work still remains to be done (Hodgson 2019). Braun is particularly interested in a historical notion of capital which refers to the way financial assets are used to generate more financial assets in historically specific capitalist systems. The historicist understanding of capital may, at first sight, seem opposed to the alternative—perhaps somewhat ahistorical—definition of capital as a set of higher-order goods which can be used to produce consumption goods.

We believe that the general insight which Braun derives is highly valuable, it is indeed through historically specific organizational forms, or if you will governance forms, that certain types of production (and combinations of goods) become possible. In earlier work Braun et al. demonstrated that there is some recognition of this specific feature of a monetary economy in Mises's work on monetary calculation (Braun, Lewin, and Cachanosky 2016). That perspective fits well with the evolutionary view of the economy which Menger develops in his theory of money. It also highlights the fact that goods do not have intrinsic properties, but only gain economic significance in the plans of individuals, and these plans themselves are institutionally dependent.

What is required is a recognition along the lines of what Richard Wagner argues in his recent work that markets are subject to enormous historical variability (Wagner 2020). Wagner gives two examples to illustrate his proposition. First, consider that until the eighteenth-century landowners would customarily leave their property to their eldest sons. This custom was due to an injunction on trading land which exists in one form or another until the present day in different parts of the world. Before modern real estate and land markets could develop a set of institutions, as rules governing the social world, had to change. That does not mean that there had been no "trading" in land, for example, land could be acquired through marriage. The second example Wagner provides is the fact that women could not own assets in their own name until the twentieth century. The alienability, or salability of goods is thus not written in stone but historically contingent and institutionally determined. It certainly is no one-way process in which ever more goods become alienable or saleable. The abolition of slavery is a good example of a fundamental transformation in market governance, which limited a certain type of exchange. The ban on child labor in many Western countries is another example of modern restrictions on certain types of exchange. Many more examples such as the designation of certain parts of land as national parks or recreational areas can be added. This historical contingency also highlights the extent to which individual plans are dependent on the existing institutional and legal infrastructures. It therefore makes sense to think of legal rules as durable inputs into the production process (Buchanan 1975, chap. 7). Or to think of economic institutions such as the current form of money—which allows for sophisticated forms of monetary calculation—as an important input or enabler of different types of investments.

Later Austrian theorists have expanded on the historical contingency of investment plans and their relevance in the cycle, most notably Böhm-Bawerk (1891). But it is in the work of Ludwig Lachmann that we find an emphasis on the interdependence of individual investment plans (Lachmann 1971). In his theory the notion of heterogeneity of capital goods is combined with the idea that different physical capital goods are complementary to one another. From the perspective of the individual entrepreneur, it is therefore relevant to consider the existing structure of physical capital goods and the investment plans of others. This is equally true for the existing institutional framework. As we have argued elsewhere, there are important complementarities between the institutional order, the organization of markets, and the structure of privately produced capital goods (Dekker and Kuchař 2019).

Above we highlighted the integrative function of institutional infrastructures based on the work of Alfred Marshall. And it was Marshall who did most to emphasize that economic organization is one of the factors of production (Prendergast 1992). Marshall's analysis of industrial clusters is famous (Hart 2021), and the focus on economic organization extends to the analysis of the firm as an organizational form that changes and evolves over time. As Braun and Hodgson highlight the focus on the historical specificity of economic organization dovetails well with the older institutional approach, including the German Historical School which paid much attention to the organizational forms within the economy and of the economy itself. In the historicist perspective the emergence and the evolution of the division of labor is an important part of the process of economic development, and the institutional structure of the economy.

It is one thing to recognize that money, or property rights are important institutional preconditions for the functioning of a market economy. But it is quite another matter to ask, as we suggest Menger did in his work on the emergence of money, how particular economic systems co-evolve with different types of money. The same is true for the legal framework, the system of guilds (or the type of open competition that

came afterwards) and so on. In Marshall and Young that problem does not come to the foreground because they seem to treat the economy merely as a set of different types of goods and organizational forms, which all exist on more or less on the same plane of analysis. This is not the case for Menger who has a clear understanding of the fact that the economic system is entangled with the legal and social system of its time. Therefore, it is in his work that the tension comes clearly to the fore.

To avoid a kind of economic imperialism in which everything is treated as capital goods that are inputs into the production process, we must develop an understanding of how particular forms of private economic organization are complementary with institutional and legal frameworks. This is also what the stages theory of economic development that both Smith and Menger develop suggests. And what is somewhat cryptically but accurately captured in Allyn Young's idea that "the division of labour depends in large part upon the division of labour" (Young 1928, p. 533). What Young says is that as new private plans develop, as new technologies are discovered and as organizational forms are improved, there is a parallel social process that coevolves with the increased division of labor. The further that this division of labor progresses, and the more heterogeneous industries and goods become, the more scope there is for a further division of labor.

In other words, further private economic specialization, a further refinement of causal knowledge, and the resulting division of labor require increased institutional and legal integration. There is by now a good literature on the way in which the Habsburg Empire inspired later ideas on European and international integration within the Austrian tradition (Van der Haar 2011; Slobodian 2018; Rohac and Mingardi 2021).

Young identifies a mutually reinforcing effect of the two elements that Menger and Smith identify. The extent of the market on the one hand and the growth of knowledge on the other. As occupations and goods become more varied through the process of the division of labor, there is a greater scope for the development of new knowledge in the form of plans, technology, and organizational forms. But we believe that Menger points to one additional type of development that results from the increased division of labor; one that is, as far as we are aware, largely neglected in most of the literature on economic growth and development.

#### IV. THE CROSS-COMPLEMENTARITY OF TWO TYPES OF KNOWLEDGE

In his *Investigations* Menger compares the emergence of common law in an analogous manner to how he describes the emergence of money (Menger 2009, p. 223). He argues that the initial emergence of both law and money was a spontaneous process. Afterwards, thought Menger, this process came to be refined by "reflective consideration and judgment of needy human nature and the conditions that environ the members of a nation" (Menger 2009, p. 230). He emphasizes that its design is not the outcome of human intelligence but did develop through reflective judgment by members of the community in a process of trial and error. As such we can see that the legal rules which facilitate voluntary private exchanges are to a large extent an unintended by-product of human interaction. But once those rules are developed into common law there is a reflective process through which common law is altered and sometimes improved.

The knowledge thus developed creates a shared framework in which private activity can take place. But just as individual plans and their feasibility depend on the social structure of plans, so the feasibility of individual plans depends on their compatibility, or if you will complementarity with this shared body of knowledge. It is probably true that a large part of the reason that we find mutual compatibility between individual plans has to do with the fact that there is a shared framework or a shared body of knowledge. Demsetz has even suggested the organization of knowledge between what is shared or rather common knowledge and what is specialized knowledge is one of the crucial problems in societal organization (Demsetz 1988, p. 157). By analogy we might argue that another crucial problem in societal organization is that of what is left to private forms of organization and what is organized collectively and governed as commons.

In a discussion on the contributions of Alfred Marshall, Brian Loasby speaks of the organization of knowledge (Loasby 2021). It is a good angle from which to approach the way Menger thinks about the process of the division of labor, which Loasby described as the combination of coherence and change. The cen-

trality of this problem is recognized by some scholars working in the law and economics tradition. Epstein, for example, provided a strong argument for a relatively minimal *and* stable shared framework of rules to allow for the greatest freedom of private activity (Epstein 1997). But more recent literature has emphasized the benefits of having more flexible social and legal infrastructures that allow for new kinds of activities to develop (Hadfield 2016), as well as a better appreciation of the extent to which many resources in society are shared (Frischmann 2012). This problem is not restricted to legal or economic problems. In language we also see a trade-off between the need for specialization and precision in the form of jargon and the need for a shared vocabulary and understanding. Recurring complaints about too much jargon can be interpreted as an argument that too much specialization of language has come at the cost of easy coordination based on shared language. And regarding money we can also observe this issue. Money functions well when it is widely accepted and shared, but needs might arise for specialized monies or tokens, between different regions and countries, or for specific purposes such as in the recent emergence of cryptocurrencies. In all these matters it is a crucial question of organization to which extent such infrastructures are shared and stable, or organized in more specialized and smaller communities, or even private.

The spheres beyond law demonstrate that this is not merely a problem of the proper role of the state in the economy. Rather it is a genuine problem of economic organization and the governance of markets, which can be done privately, through the commons, or publicly. As Hodgson, building on Marshall, recently emphasized in an essay on the limits of markets, knowledge is the most powerful engine of production (Hodgson 2021). It is the organization of knowledge both within the firm (private governance), within society (as knowledge commons) and within the state (as the governance of legal rules) that is the central problem in the Mengerian perspective of economic development.

Menger in the second edition of his *Principles* (Menger 1923) pays more attention to the institutional variety in types of governance that can be found in the economy (Becchio 2014; Dekker 2021). A crucial issue in this way of thinking becomes how we ensure the proper balance between what Marshall calls the integrative elements of markets and the private or specializing elements of markets. The combination, or rather the problem of economic organization that results from this tension is central to Menger's work, which on the one hand highlights the benefits from the division of labor and the resulting division and specialization of knowledge and on the other hand the emergence of integrative institutions which facilitate private exchange, money being the exemplary case, but certainly not the only one.

## V. CONCLUSION

We have suggested that Menger's evolutionary view of the growth of knowledge gives rise to a novel perspective on economic development. The same perspective that Menger applies to law and money can be applied to different elements of knowledge. And hence we argue that alongside the development of markets, often even as an unintended consequence of private exchange, a shared cognitive framework develops. This cognitive framework consists of the relevant market categories, classifications, as well as instruments of interpretation and evaluation which facilitate both production and consumption choices. It is fully in line with Menger's subjectivism as well as his attention to the increasing heterogeneity of economic activity and consumption goods, to think that with the expansion of the quality and quantity of goods we will also find an expansion of the cognitive frameworks used to understand, classify and value these goods.

The contemporary of Menger, Georg Simmel, articulated this point of the interdependence and complementarity of different institutions well. Technological change and the resulting changes in the division of labor is mediated by the existing legal order, and we might add the broader cognitive frameworks in which the technology is developed:

It is thus in the very least a claim prone to misunderstanding to consider the use of the steam engine as the cause of social and legal transformations of this century. This mere technology has

nothing to do with society and law as such. Only because it impinged upon an existing legal order and was conceived in the form of the same, the process emerged which one describes as the degradation of the crafts and the proletarization of the masses (Simmel 2018, p. 201).

Simmel's analysis is somewhat more materialistic than an Austrian point of view would suggest but the conclusion he derives from his analysis is highly insightful:

Under a different legal order, for example under a socialist or anarchist order, the invention of the steam engine would have had completely different social and legal consequences. The social significance of a changed production technology is thus dependent on its manifestation in specific legal forms, thereby creating social phenomena which can then push towards changes of the legal constitution.

What Simmel illustrates here is not merely the interdependence of the institutional framework and the set of existing goods, but also the extent to which the two have to be compatible, the extent to which there is cross-complementarity between the two. The accompanying problem of economic organization is to find the appropriate way in which to organize productivity while harnessing new technologies, that is to find an economically profitable way of organizing new types of production. That, and not the technology itself, determines whether the benefits from a particular technology can be realized. As Baetjer (2000, p. 147) argued in a related context: "What prevents exponential growth is neither diminishing returns nor upper bounds to human capital, as growth models assume. It is the constant challenge of maintaining capital complementarities in a world of incomplete and rapidly changing knowledge."

In this paper we have shown that Menger's work provides an understudied angle for the analysis of the relationship between knowledge and economic development. We have placed Menger in the long tradition of endogenous growth thinkers within economics but have shown that Menger was more aware of the dual nature of knowledge, both private and shared. Menger's theory of the development of shared institutions such as money can be combined with his theory of increased heterogeneity and complexity of private knowledge and goods. In this paper we have shown that these two building blocks give Menger a unique position in the tradition of thought on endogenous growth. It enriches Marshall's notion of integrating and differentiating elements of markets, and provides the tools for a dynamic analysis that can explain the origins of exponential growth through the increased differentiation and heterogeneity of knowledge, as well as its limits, through the emphasis on the necessity of shared knowledge and market-enabling knowledge commons.

## NOTES

- 1 Prendergast highlights that Cantillon also saw the importance of the existence and design of market institutions for both the coordination of individual plans and the knowledge contained in them (Prendergast 2007, p. 686).
- 2 In *The Wealth of Nations* Adam Smith outlines extensively how important the breaking down of regional trade barriers and regulatory differences as well as differences in standards of measurements were in the creation of an integrated market within Britain. The difficulty of maintaining an integrated market despite cultural and linguistic differences was well-known to Menger from his experience in the Habsburg Empire. And in the German-language literature the reflections on German unification and what it meant for the development of the economy were omnipresent.

## REFERENCES

Aligica, Paul Dragos. 2014. *Institutional Diversity and Political Economy: The Ostroms and Beyond*. Oxford: Oxford University Press.

Baetjer, Howard. 2000. Capital as Embodied Knowledge: Some Implications for the Theory of Economic Growth. *Review of Austrian Economics* 13: 147–74.

Becchio, Giandomenica. 2014. Carl Menger on States as Orders, Not Organizations: Entangled Economy into a Neo-Mengerian Approach. In: *Advances in Austrian Economics* 18: 55–66. New York: Emerald. doi:10.1108/S1529-213420140000018003.

Boettke, Peter J. 2018. *F. A. Hayek: Economics, Political Economy and Social Philosophy*. London: Palgrave Macmillan.

Böhm-Bawerk, Eugen von. 1891. *The Positive Theory of Capital*. London: Macmillan and Company.

Braun, Eduard. 2020. Carl Menger: Contribution to the Theory of Capital (1888), Section V. *Journal of Institutional Economics* 16 (4): 557–68.

Braun, Eduard, Peter Lewin, and Nicolas Cachanosky. 2016. Ludwig von Mises's Approach to Capital as a Bridge between Austrian and Institutional Economics. *Journal of Institutional Economics* 12: 847–66.

Buchanan, James M. 1975. *The Limits of Liberty: Between Anarchy and Leviathan*. Chicago: University of Chicago Press.

Caldwell, Bruce. 2002. Wieser, Hayek and Equilibrium Theory. *Journal Des Économistes et Des Études Humaines* 12(1): 47–66. doi:10.2202/1145-6396.1047.

Coen, Deborah R. 2007. *Vienna in the Age of Uncertainty: Science, Liberalism, and Private Life*. Chicago: University of Chicago Press.

Dekker, Erwin. 2021. The New Theory of Individual and Collective Needs in the Second Edition of Carl Menger's Principles of Economics. *Research in the History and Methodology of Economic Thought* 39B, 43–56. doi:10.1108/S0743-41542021000039B004.

Dekker, Erwin, and Pavel Kuchař. 2019. Lachmann and Shackle: On the Joint Production of Interpretation Instruments. *Research in the History and Methodology of Economic Thought* 37B: 25–42. doi:10.1108/s0743-41542019000037b005.

Demsetz, Harold. 1988. The Theory of the Firm Revisited. *Journal of Law, Economics, & Organization* 4: 141–63.

Epstein, Richard A. 1997. *Simple Rules for a Complex World*. Harvard: Harvard University Press.

Frischmann, Brett M. 2012. *Infrastructure: The Social Value of Shared Resources*. Oxford: Oxford University Press.

Garrouste, Pierre. 2008. The Emergence and Evolution of Institutions: The Complementary Approaches of Carl Menger and Thorstein Veblen. 17. ICER-International Centre for Economic Research.

Hadfield, Gillian K. 2016. *Rules for a Flat World: Why Humans Invented Law and How to Reinvent It for a Complex Global Economy*. New York: Oxford University Press.

Hart, Neil. 2021. Marshall's External Economies: Economic Evolution and Patterns of Development. In: *Marshall and the Marshallian Heritage: Essays in Honour of Tiziano Raffaelli*, eds. Katia Caldari, Marco Dardi, and Steven G. Medema, pp. 79–100. Cham: Palgrave Macmillan.

Hayek, Friedrich A. 1945. The Use of Knowledge in Society. *The American Economic Review* 35: 519–530.

\_\_\_\_\_. 1948. *Individualism and Economic Order*. Chicago: University of Chicago Press.

High, Jack. 2009. Entrepreneurship and Economic Growth: The Theory of Emergent Institutions. *The Quarterly Journal of Austrian Economics* 12: 3–36.

Hodgson, Geoffrey M. 2004. Institutional Economics: From Menger and Veblen to Coase and North. In: *The Elgar Companion to Economics and Philosophy*, eds. John B. Davis, Alain Marciano, and Jochen Runde, pp. 84–101. Cheltenham: Edward Elgar.

\_\_\_\_\_. 2019. Austrian Economics Is Still Not Institutional Enough. In: *Assessing Austrian Economics*, eds. Daniel J. D'Amico and Adam G. Martin, pp. 101–10. New York: Emerald.

\_\_\_\_\_. 2021. On the Limits of Markets. *Journal of Institutional Economics* 17: 153–70.

Hollander, Samuel. 2001. Malthus and Classical Economics: The Malthus–Ricardo Relationship. *Cahiers d'économie Politique* 38: 11–23. doi:10.4324/9780203066157.

Klausinger, Hansjörg. 2015. Hans Mayer, Last Knight of the Austrian School, Vienna Branch. *History of Political Economy* 47: 271–305.

Klein, Daniel B. 2012. *Knowledge and Coordination*. Oxford: Oxford University Press.

Lachmann, Ludwig M. 1947. Complementarity and Substitution in the Theory of Capital. *Economica* 14(54): 108–119. doi:10.2307/2549487.

\_\_\_\_\_. 1971. *The Legacy of Max Weber*. Berkeley: The Glendessary Press.

Lavezzì, Andrea. 2003. Smith, Marshall and Young on Division of Labour and Economic Growth. *The European Journal of the History of Economic Thought* 10(1): 81–108. doi:10.1080/0967256032000043805.

Loasby, Brian J. 1996. The Division of Labour. *History of Economic Ideas* 4: 299–323.

\_\_\_\_\_. 1999. *Knowledge, Institutions and Evolution in Economics*. London: Routledge.

\_\_\_\_\_. 2021. The Organisation of Knowledge and Knowledge as Organisation. In: *Marshall and the Marshallian Heritage: Essays in Honour of Tiziano Raffaelli*, eds. Katia Caldari, Marco Dardi, and Steven G. Medema, pp. 39–60. Cham: Palgrave.

Marshall, Alfred. 2013 [1920]. *Principles of Economics: Eighth Edition*. London: Palgrave.

Menger, Carl. 1923. *Grundsätze der Volkswirtschaftslehre, zweite Auflage*. Wien: Holder-Pichler-Tempsky.

\_\_\_\_\_. 1950 [1871]. *Principles of Economics*. Glencoe: The Free Press.

\_\_\_\_\_. 2009 [1883]. *Investigations into the Method of the Social Sciences*. Auburn: Mises Institute.

\_\_\_\_\_. 2016. The Social Theories of Classical Political Economy and Modern Economic Policy. Tr. Stefan Kolev and Erwin Dekker. *Econ Journal Watch* 13(3): 467–89.

O'Driscoll, Gerald P. 1986. Money: Menger's Evolutionary Theory. *History of Political Economy* 18(4): 601–16.

Prendergast, Renee. 1992. Increasing Returns and Competitive Equilibrium—The Content and Development of Marshall's Theory. *Cambridge Journal of Economics* 16: 447–62.

\_\_\_\_\_. 2007. Knowledge and Information in Economics: What Did the Classical Economists Know? *History of Political Economy* 39: 679–712.

Richardson, G. B. 1975. Adam Smith on Competition and Increasing Returns. In: *Essays on Adam Smith*, eds. Andrew S. Skinner and Thomas Wilson, pp. 350–60. Oxford: Clarendon Press.

Rizzo, Mario J. 1979. *Time, Uncertainty and Disequilibrium: Exploration of Austrian Themes*. Lexington: Lexington Books.

Rohac, Dalibor, and Alberto Mingardi. 2021. Hayek's Europe. In: *The Liberal Heart of Europe*, ed. Francesco Giavazzi, pp. 67–80. Cham: Palgrave Macmillan.

Samuels, Warren J. 1989. Austrian and Institutional Economics: Some Common Elements. *Research in the History of Economic Thought and Methodology* 6: 53–71.

Simmel, Georg. 2018. On the Methodology of Social Science. *Journal of Contextual Economics—Schmollers Jahrbuch* 138(3–4): 199–212. doi:10.3790/schm.138.3-4.199.

Slobodian, Quinn. 2018. *Globalists: The End of Empire and the Birth of Neoliberalism*. Cambridge MA: Harvard University Press.

Smith, Adam. 1981 [1776]. *An Inquiry into the Nature and Causes of The Wealth of Nations*. Indianapolis: Liberty Fund.

Streissler, Erich. 1969. Structural Economic Thought. *Zeitschrift für Nationalökonomie* 29: 237–66.

\_\_\_\_\_. 1972. To What Extent Was the Austrian School Marginalist? *History of Political Economy* 4: 426–41.

Streissler, Erich, and Monika Streissler. 1994. *Carl Menger's Lecture to Crown Prince Rudolf of Austria*. Cheltenham: Edward Elgar.

Van der Haar, Edwin van der. 2011. Hayekian Spontaneous Order and the International Balance of Power. *Independent Review* 16: 101–18.

Wagner, Richard E. 2007. Value and Exchange: Two Windows for Economic Theorizing. *Review of Austrian Economics* 20: 97–103.

\_\_\_\_\_. 2020. *Macroeconomics as Systems Theory: Transcending the Micro-Macro Dichotomy*. Cham: Palgrave Macmillan.

Wynarczyk, Peter. 1992. Comparing Alleged Incommensurables: Institutional and Austrian Economics as Rivals and Possible Complements? *Review of Political Economy* 4(1): 18–36.

Young, Allyn A. 1928. Increasing Returns and Economic Progress. *The Economic Journal* 38(152): 527–42. doi:10.2307/2224097.

# Transcending the Schumpeter-Kirzner Dichotomy: The Role of the Entrepreneur in Carl Menger's Theory of Price Formation

ROSOLINO A. CANDELA  
AND KARRAS J. LAMBERT

George Mason University

**Abstract:** Carl Menger established in his pathbreaking 1871 work *Grundsätze der Volkswirtschaftslehre* (*Principles of Economics*) the theoretical foundations from which all future developments in the tradition of the Austrian School of economics can arguably be traced. However, some followers working in that same intellectual tradition have found Menger's treatment of entrepreneurship lacking with respect to its systematic integration with Menger's overriding aim to connect the subjective valuations of market participants with the prices that emerge in markets. Furthermore, an apparent dichotomy has been identified in past entrepreneurship literature between the theoretical work of Joseph Schumpeter and Israel Kirzner concerning the role of the entrepreneur in driving the market from or towards equilibrium, respectively. In this paper, we demonstrate how the entrepreneurial role as identified by Menger in his *Principles* is in fact systematically integrated with his conception of the market process as a whole. Furthermore, the more systematic understanding of the Mengerian entrepreneur also serves to clarify and overcome at least part of the apparent dichotomy between Schumpeterian and Kirznerian entrepreneurship. In doing so, we position the Mengerian entrepreneur as a potentially unifying conception from which those working within the two divergent strands may find common roots.

**Keywords:** Carl Menger; Israel Kirzner; Joseph Schumpeter; Entrepreneurship; Market Process; Price Theory

**JEL CODES:** B31; B53; D01

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## I. INTRODUCTION

Carl Menger's 1871 *Grundsätze der Volkswirtschaftslehre* (*Principles of Economics*) is widely acknowledged as the founding text of the Austrian School of economics. Followers of Menger within the Austrian tradition can all locate firm roots in Menger's work, whether concerning price and value theory (Klein 2008) or considerations of time, error and knowledge (Vaughn 1990). Menger's first volume alone lays the foundations from which arguably all future theoretical developments of the Austrian School would build upon. In doing so, Menger (1981 [1871], p. 49) "devoted special attention to the investigation of the causal connections between economic phenomena involving products and the corresponding agents of production, not only for the purpose of establishing a price theory based upon reality and placing all price phenomena ... together under

one unified point of view, but also because of the important insights we thereby gain into many other economic processes heretofore completely misunderstood.” Nevertheless, some working in the Austrian tradition have noticed seemingly paradoxical elements in Menger’s treatment of entrepreneurship, particularly an apparent lack of systematic integration with his theory of price formation, which itself, it is argued, fails to incorporate his own admonitions elsewhere in the book concerning the importance of time, uncertainty, knowledge, and error in economic processes.

To address the arguments concerning this apparent paradox, we trace Menger’s explicit discussion of entrepreneurship in his *Principles* through his broader treatment of economic development located throughout the book. By locating Menger’s conception of entrepreneurship as key to the market process as a whole, we demonstrate how it incorporates choice over the institutional structures within which exchange occurs and therefore has direct bearing on the price formation process. We also clarify the extent to which Menger’s theory of price formation can be said to be an “equilibrium” theory. Doing so also allows us to shed light on the apparent dichotomy that has emerged in the academic literature between Schumpeterian and Kirznerian notions of entrepreneurship. In particular, we argue that the systematic nature of the Mengerian entrepreneur is able to transcend this dichotomy and provide a possible basis for re-convergence between what have, since Menger’s time, become divergent accounts of the market process.

## II. THE ENTREPRENEURIAL ROLE IN MENGER’S PRINCIPLES OF ECONOMICS

The explicit discussion of entrepreneurship in Menger’s *Principles* occurs within only a few brief passages in Chapter 3, “The Theory of Value.” The four key functions Menger (emphasis in original; 1981 [1871], p. 160) associates with the entrepreneur include: “(a) obtaining *information* about the economic situation; (b) economic *calculation* – all the various computations that must be made if a production process is to be efficient (provided it is economic in other respects); (c) the *act of will* by which goods of higher order … are assigned to a particular production process; and finally (d) *supervision* of the execution of the production plan so that it may be carried through as economically as possible.”

Salerno (1999, p. 92) regards Menger’s conception of entrepreneurial activity as “the set of functions necessary for actuating the production process.” As such, “the entrepreneur’s most important function is anticipating future wants, estimating their relative importance, and acquiring the technological knowledge and knowledge of currently available means.” Other than erroneously categorizing entrepreneurial activity as a type of labor service, Salerno (1999, p. 93 fn. 65) identifies in Menger’s conception of the entrepreneur the key ingredients that would later appear in Mises’ discussion of the “promoter-entrepreneur” in *Human Action*.

Campagnolo and Vivel (2014, p. 53) emphasize how “Mengerian entrepreneurs are *foreseers*” whose specific role is to “always look further up the ladder of the goods necessary to produce some other goods.” Mengerian entrepreneurs must take stock of all relevant market information, including forecasts of future consumer preferences and current prices of necessary factor inputs, and consciously arrange and direct particular production processes in pursuit of perceived profit opportunities. Furthermore, as Westgren (2020) recognizes, the functions Menger does explicitly identify with entrepreneurship involve productive transformation through time, which necessarily involves uncertainty by Menger’s own recognition. Therefore, returns to entrepreneurship will be included in the ultimate valuation of the consumer goods brought to market, linking Menger’s account of entrepreneurship with the chain of value imputation from the expected future prices of eventual consumer goods backwards to the competitive bidding for higher-order producer goods.

However, others working in the Austrian tradition find Menger’s treatment of entrepreneurship unsystematic at best and difficult to reconcile with more modern treatments of the entrepreneur. For instance, Kirzner (1978, p. 31) wishes to determine “the extent to which [Menger’s] system, explicitly or implicitly, found room for the entrepreneurial role (or to which his system might, at the hands of his followers, be expected to lead to the clear identification and explication of this role).” Yet after considering Jaffé’s (1976)

reading of the Mengerian entrepreneur as compatible with Kirzner's own work, Kirzner concludes that "it does not seem possible to sustain such a reading of Menger" on account of the apparent disconnect between Menger's discussion of entrepreneurship and his theory of price formation. In particular, Kirzner (1978, p. 36) finds it problematic that "in Menger's entire theory of price error is carefully excluded." Furthermore, Kirzner (emphasis in original; 1978, p. 38) finds it puzzling that "Menger's theory of prices, monopolistic or competitive, is emphatically *not* a disequilibrium theory!" on account of the fact that Menger "provides no hint of any time-consuming market processes (entrepreneurial or otherwise) through which prices are systematically formed" as well as the fact that "Menger explicitly assumed the absence of all error – an assumption guaranteeing instantaneous equilibrium, and one which in fact starts out by giving entrepreneurs little to do." Summing up, Kirzner states that "in Menger's theory, prices are shown to be determined instantaneously and inexorably by the ruling economic circumstances."

Sautet (2015, p. 68) largely shares Kirzner's interpretation of the entrepreneurial element in Menger's *Principles*, writing, "At best, Menger sees [entrepreneurship] as a special kind of labor service" and concurs with Kirzner that Menger's price theory is "paradoxically ... not entrepreneurial." Sautet (2015, p. 82) joins Kirzner in reading Menger as explicitly assuming away error in his theory of price formation and therefore providing a theory of "instantaneous equilibrium." As a result, this strand of the Austrian entrepreneurship literature sees Menger's conception of the entrepreneurial role as paradoxical in the sense that it should not actually exist in an errorless state of attained equilibrium prices. With that said, Kirzner (1978, p. 41) "does not rule out a possibly pioneering role for Menger in the economics of entrepreneurship, or of imperfect knowledge, or of disequilibrium."

Vaughn (1994) takes a more ambivalent view towards Menger's theory of price and conception of the market process within which entrepreneurial activity occurs. On one hand, Vaughn (1994, p. 18) places Menger "in the neoclassical camp" insofar as he can be said to provide "a theory of the determination of equilibrium prices under varying degrees of competition in markets." But while Vaughn (1994, p. 26) believes that "Menger's theory of exchange and price ... can be interpreted as a laborious definition of equilibrium prices," she also acknowledges that Menger's work as a whole might be "more appropriately viewed as a theory of economic processes" on the basis that Menger recognizes how economizing individuals "actively search out trading partners" in order to "exploit the differences in valuation between them," which at least opens up space for an implicit role for entrepreneurship throughout these activities.

These readings concerning the lack of an entrepreneurial role in Menger's theory of price formation are indeed plausible to at least a certain degree. As we have already noted, Menger confines his explicit treatment of entrepreneurship to brief passages located within a single chapter of his *Principles* and well outside his discussion of price formation proper. Furthermore, Menger (1981 [1871], p. 172) certainly does write that "entrepreneurial activity must definitely be counted as a category of labor services" and does use the term "equilibrium" on a handful of occasions during his discussion of price formation. At one point, Menger (1981 [1871], p. 192) refers to "the prices of goods" as "symptoms of an economic equilibrium in the distribution of possessions between the economies of individuals," analogizing such "equilibrium" prices to waves that begin when "the locks between two still bodies of water at different levels are opened" until they "gradually subside until the water is still once more." Finally, Menger (1981 [1871], p. 216) does indeed consider "error and imperfect knowledge" to be "pathological phenomena of social economy" that do not impact the fact that "each given economic situation sets definite limits within which price formation and the distribution of goods must take place, and any price and distribution of goods that is outside these limits is economically impossible."

It should be noted, however, that Kirzner (1978) only takes issue with Menger's treatment of time and error within his theory of price formation. According to Kirzner (1978, p. 38), "[e]xcept for his chapter on price, Menger's book displays a sensitive awareness of the inescapable influence of error and ignorance, and of the resulting continuous state of flux in which the economic system must always find itself." Kirzner himself recognizes that a "possible solution to this difficulty may be ... the distinction which Menger implies at several points between 'economic prices' and 'uneconomic prices.'" Continuing, Kirzner (1978, p.

38; emphasis original) notes that “Menger is fully aware that the world will, at any given moment, display prices that are, to greater or lesser degree, *uneconomic*,” yet nevertheless finds a lack of a “systematic process linking today’s prices directly to those that prevailed yesterday” to be troubling and concludes that “Menger’s theory [of price formation] was *not* a disequilibrium theory at all. It did not make use of the phenomena of ignorance and error” (Kirzner 1978, p. 40; emphasis original).

As we have already established, Menger’s discussion of entrepreneurial activity involves a production process through time that necessarily involves uncertainty. Next, we construct a link between Menger’s explicit treatment of entrepreneurship and his theory of price formation through the general process of economic development, the choice over not only the quantities and qualities of goods to be produced and brought to market but also the market structures themselves within which exchange occurs. Doing so presents a more comprehensive view of how entrepreneurial decision making is relevant at each step of production towards the final exchange in which prices are formed.

## II.A. MENGERIAN ENTREPRENEURSHIP AND ECONOMIC DEVELOPMENT

Menger’s overriding concern in *Principles of Economics* is to explain how the subjective valuations of individuals are causally connected to the formation of market prices (Salerno 1999, p. 72). Yagi (2011, pp. 18-29) traces the origins of Menger’s interest in understanding prices to his work as an economic journalist in 1869 at the *Wiener Zeitung*, where Menger noticed a discrepancy between how market practitioners described the conditions and process of real-life price formation and the theories taught in leading German academic texts at that time. To reconcile this discrepancy, Menger set out, according to Schumpeter (1951, p. 84), with the “essential aim … to discover the law of price formation.”

Readers of Menger’s *Principles* will quickly find, however, that the book is also substantially concerned with the causes and implications of economic development. After a preliminary explication of economic goods-character and the inescapable presence of time and error in the production process, which involves the transformation of goods of higher order to those of lower order for the direct satisfaction of human needs, Menger (1981 [1871], pp. 71-74) turns to “The Causes of Progress in Human Welfare.” In this brief section, Menger improves upon the connection drawn by Adam Smith between the division of labor and economic development by noting that meaningful economic progress occurs only when the division of labor is extended alongside saving, capital accumulation, and the intensification of the time structure of production, whereby goods of higher order are increasingly joined together and employed towards the creation of goods of lower order for eventual consumption. Streissler (1969, p. 249; emphasis in original) sees in this insight “a conscious break with the central theme of the classics” in that “while [the classics] had always asked *how* to produce best, [Menger] starts interest in the question *what* to produce best.”

Menger (1981 [1871], p. 74) remarkably states that “the quantities of consumption goods at human disposal are limited only by the extent of human knowledge of the causal connections between things, and by the extent of human control over these things.” Since the “increasing understanding of the causal connections between things and human welfare” informs the subsequent arrangement of more effective combinations of higher order goods into production processes, “[n]othing is more certain than that the degree of economic progress of mankind will still, in future epochs, be commensurate with the degree of progress of human knowledge.” As economic progress occurs in such a way, not only will quantities of goods available for consumption in future time periods increase but so too will “the kinds of goods” as well as “the occupations” that become valuable in the now-expanded division of labor (Menger 1981, p. 73). For this reason, Streissler (emphasis in original; 1969, p. 249) characterizes Menger’s *Principles* as “an *enquiry into the diversity of goods*.”

Menger (1981 [1871], pp. 159-60) recognizes that “the process of transforming goods of higher order into goods of lower or first order … must also always be planned and conducted, with some economic purpose in view, by an economizing individual.” For Menger (1981 [1871], p. 160), the entrepreneur is this “economizing individual” who “must actually bring the goods of higher order together … for the purpose

of production.” As we have already established, Menger recognizes saving and capital accumulation for use in production to be primarily responsible for economic progress, so in this way Menger situates the entrepreneur as the driving force of the market process much the same as his intellectual descendants in the Austrian School (see Mises 1966 [1949], pp. 333-338; Kirzner 1999b, pp. 219-220; Kirzner 2000, p. 225). Furthermore, since Menger recognizes knowledge to be intimately tied to the process of development, advances in knowledge set the stage for further entrepreneurial opportunities to satisfy newly discovered causal means-ends relationships both in terms of production and eventual consumption.

So far, we have seen how, for Menger, entrepreneurial activity drives production and therefore is essential for economic development in a broad sense, as well as the vital importance of expanding knowledge of new causal relationships. To clarify the role that entrepreneurship plays throughout the price formation process itself, one must jump past the chapter on price to Chapter VII, “The Theory of the Commodity,” where Menger introduces the importance of middlemen and the institutions within which exchange occurs. According to Menger (1981 [1871], p. 239):

The higher the level of civilization attained by a people and the more specialized the production of each economizing individual becomes, the wider become the foundations for economic exchanges and the larger become the absolute and relative amounts of those goods that at any time have commodity character, until finally the economic gains that can be derived from the exploitation of the above relationship become sufficiently large to call forth a special class of economizing individuals who take care of the intellectual and mechanical parts of exchange operations for society and who are reimbursed for this with a part of the gains from trade. When this has occurred, economic goods no longer, for the most part, pass directly from producers to consumers but often follow very complex paths through the hands of more or less numerous middlemen. By occupation these persons are accustomed to treat certain economic goods as commodities and to keep special places open to the public for the purpose of selling them.

Here we can see clearly the function of “middlemen” in identifying opportunities to profit by exploiting available but previously unrealized gains from trade. Furthermore, Menger (1981 [1871], p. 242) recognizes that “the success of the economic activity of producers and merchants depending to a very great extent on a correct understanding” of “the obvious differences in the marketability of commodities.” As a result, producers of novel products “are therefore accustomed to make their commodities ‘known’, often at great economic sacrifice, in order to increase the numbers of persons to whom they are saleable” (Menger 1981 [1871], p. 242, fn. 9). Thus, ignorance clearly enters into Menger’s conception of market exchange, as consumers are at first naturally unaware of the existence of new products but, thanks in large measure to the work of middlemen and mediating institutions, can over time gain knowledge of the different ways in which these novel products can be brought into causal connection with “human needs.”

## II.B. MENGERIAN ENTREPRENEURSHIP AND PRICE FORMATION

Turning finally to Chapter V, “The Theory of Price,” Menger begins the chapter by examining the simplest case of isolated exchange, whereby two individuals with reverse valuations over two goods agree to exchange them at a price that both find mutually agreeable. However, “with the progress of civilization, instances in which the foundations for an economic exchange of goods are present merely for two economizing individuals occur less frequently” (Menger 1981 [1871], p. 197). As a result, Menger turns his attention to price formation under the conditions where a monopolist offers a certain quantity of a good to multiple sellers. Here too, a band of possible prices reflect the subjective valuations of market participants and provide the limits within which mutually beneficial exchange occurs. Menger (1981 [1871], p. 225) only then turns to a non-monopolistic market situation, which encourages “large-scale production” and “the exploitation of even the smallest economic gain wherever possible.”

It is important to note that Menger did not offer a theory of price *determination*, where only a single parametric price is able to clear a market, but one of price *formation*, where the ultimate prices that result fall within a range of the respective subjective valuations of the parties to an exchange (Boettke 1992, p. 521). To make this point, Moss (1978, p. 29) states that “Menger’s contribution was to successfully show how market price is formed out of the subjective preferences of buyers and sellers in a world where individuals are striving to satisfy as many of their most urgent needs as is possible.” However, rather than reducing the complexities of market exchange to a problem of calculus, Menger remained focused on maintaining the link between the ordinal preferences of consumers and the ultimate prices agreed upon and paid. By doing so, Menger was able to avoid the single-exit understanding of the market process that characterizes general equilibrium.

Unlike his fellow marginal revolutionaries in Jevons and Walras, Menger recognized the *intentional* element in the formation of particular market structures (Ebeling 2021). As such, the institutional market arrangements themselves are objects of economizing action. While Jevons simply assumes away this aspect of the market process and takes institutions as given, Walras infamously set forward the idea of an auctioneer in order to bind together his general equilibrium system. Menger, in his account of price formation, instead gives explicit consideration to the various possible institutional settings within which the goods generated through the entrepreneur-driven production process can be brought to market and exchange can take place. For example, after describing the limits within which prices in a monopolistic market may form, Menger (emphasis added; Menger (1981 [1871], p. 208; emphasis added) writes:

*Whenever the monopolist can count on congregating all or at least a sufficient number of competitors, and when the necessary formalities can be observed without disproportionate economic sacrifices (as in the case of an auction of a monopolized article in a well-known auction hall, announced some time in advance), he will of course use the method described in the previous section as the one most certain to enable him to dispose of the entire amount of the monopolized good at his command in the most economic manner. He will also choose an auction when he must sell out a substantial stock of a monopolized good completely within a limited period of time. But the ordinary procedure adopted by a monopolist in marketing his commodities will ... be one in which he has the available quantities of the monopolized good ready for sale but offers only partial quantities to the competitors for it at a price set by him.*

The italicized sections in the passage quoted above reveal Menger to be sensitive to the institutional mechanisms by which sellers and buyers meet, opportunities for mutually beneficial exchange are identified and, consequently, prices form. Menger (emphasis added; 1981 [1871], p. 249) recognizes the function of different “public institutions” such as “[m]arket places, fairs, exchanges, [and] public auctions” to be that of bringing “all persons interested in the pricing of a commodity together at a particular place either permanently or periodically to ensure the establishment of an economic price.” In fact, Menger (emphasis added; 1981 [1871], pp. 218-219, fn. 7) recognizes such institutions to be essential in a developed market economy:

From this it is at once evident that the great importance to human economy of markets, fairs, exchanges, and all points of concentration in trade in general, is due to the fact that as trading relationships become more complex the formation of economic prices becomes virtually impossible without these institutions. The speculation that develops on these markets has the effect of impeding uneconomic price formation from whatever causes it may arise, or of mitigating at least its harmful effect on the economy of men.

While Menger’s explicit discussion of price formation may at times seem to lend credence to Kirzner’s (1978, p. 38) reading that prices are “determined instantaneously and inexorably by the ruling economic circumstances,” there does not seem to be anything “instantaneous” or “inexorable” in an *ex-ante* sense when one

recognizes how Menger considers “the ruling economic circumstances” themselves to be subject to economizing individual action. Furthermore, as noted earlier, Menger (1981 [1871], p. 239) recognizes the vital role played by “middlemen” who “who take care of the intellectual and mechanical parts of exchange operations for society and who are reimbursed for this with a part of the gains from trade,” which reveals a sensitivity to the fact that extra steps may ultimately be required for goods generated through the production process to eventually reach the hands of consumers. Each step in this process takes time and therefore involves uncertainty, from the physical production process to the choice over the market setting of initial sale to the potential for a series of middlemen to involve themselves with the channeling the goods to the most highly valued uses able to be identified at a given time.

Mengerian entrepreneurs thus contribute not only to product differentiation and qualitative dimensions of competition through their key role in the production process, but also are intimately linked to the choice over the conditions in which exchange and consequently price formation occurs. Once entrepreneurs assign complementary goods of higher orders and see a production process through to completion, it is then necessary to bring products to market, a decision which to Menger is by no means automatic. These “public institutions,” such as the aforementioned exchanges and auctions, emerge from the economizing action of enterprising middlemen. The establishment of such institutions then enables the progressive realization of “economic prices” as “existing competitive conditions … correspond more closely to the *general economic situation*” (emphasis in original; Menger 1981 [1871], p. 248). Finally, the public nature of such exchange institutions brings forth the emergence of “a social class of economic individuals, speculators,” who “[take] care that the differences in price between the various markets do not significantly exceed the costs of transportation” (Menger 1981 [1871], p. 251).

Even if Menger only explicitly identifies entrepreneurship within the first steps of this whole process, the *functions* Menger assigns to the entrepreneurial can be seen repeatedly in each of these steps towards the eventual sale of a particular good to the final consumer. For instance, it requires the gathering of information to determine the appropriate market institutions by which profits for a certain quantity of goods may be most readily maximized. Middlemen and speculators, just like entrepreneurs situated within a physical production process, must engage in economic calculation to be sure costs expended on purchases, including interest costs related to time, are more than covered by revenues from anticipated sales. The organization of market structures requires an act of will no less than the assignment of goods within the production process. Finally, supervision of plans is undoubtedly necessary to actualize the completion of the exchange in any attempt to realize profits through intertemporal price arbitrage between the cost of present inputs and future outputs, with or without physical transformation of the goods in question.

Time and uncertainty prevail throughout this entire chain of production and distribution, as each decision undertaken by economizing individuals bears a chance of error and therefore loss if anticipated market conditions do not materialize and costs cannot at least be recovered. The actual exchange at which time prices are formed comes only at the very end of what Menger recognizes to be a lengthy sequence of interactions, all of which involve the gathering of information and economic calculation to ensure profitability at each stage in the broader production process until a good reaches the hands of the final consumer. Thus, we can see that entrepreneurship in Menger’s *Principles of Economics*, both understood broadly as the functions Menger identifies as well as more narrowly within a production process utilizing higher-order goods, is integrated with the entire account of economic development and therefore the progressive overcoming of ignorance and error.

Having demonstrated the systematic connection of entrepreneurship with Menger’s theory of price formation, we now turn to how the foregoing understanding of the Mengerian entrepreneur incorporates and transcends the apparent dichotomy between Schumpeterian and Kirznerian entrepreneurship.

### III. THE MENGERIAN ENTREPRENEUR AND THE SCHUMPETER-KIRZNER DICHOTOMY

Kirzner (1992, pp. 38-43) conceives of two distinct sets of variables that characterize the market process. The first group of variables includes “consumer tastes, resource availability, and technological knowledge” (Kirzner 2009, p. 146). These are called underlying variables (UVs). Induced variables (IVs), meanwhile, consist of market phenomena such as prices, outputs, and methods of production that are endogenously derived from the UVs. In a market characterized by general equilibrium, the induced variables dovetail with underlying variables, squeezing out any possible scope for entrepreneurship. Outside of general equilibrium, however, a tendency exists for the prevailing IVs to be brought closer into alignment with the given UVs, despite the fact that the UVs are constantly changing in the real world. For this reason, it is not possible in principle for the UVs and IVs to correspond completely despite the tendency for changes in IVs to follow changes in UVs.

The Kirznerian entrepreneur takes disequilibrium as its analytical point of departure and acts as an arbitrageur, perceiving preexisting errors in the allocation of resources and monetizing them as previously unnoticed profit opportunities. In doing so, the entrepreneur acts as an equilibrating force by redirecting resources from less valued uses, where they are bought at a relatively low price, towards more highly valued uses, where they can be resold at a higher price “Only in disequilibrium,” Kirzner (1979, p. 110) writes, “are there opportunities for entrepreneurial profit, for the purchase of inputs at a cost lower than the revenue obtainable from the sale of their potential output.” For Kirzner (2009, p. 147; emphasis original), the entrepreneur “is seen as *driving the process of equilibration*. In this process the market is, as it were, gravitating (through entrepreneurial activity) towards the hypothetical state of equilibrium [that is, the state which, in the (impossible!) absence of autonomous, exogenous changes in the underlying variables, might have eventually emerged].” As such, the Kirznerian entrepreneur generates an equilibrative tendency via a change in IVs by virtue of entrepreneurial alertness and the discovery of previously unnoticed profit opportunities.

The Schumpeterian account of entrepreneurship, meanwhile, takes Walrasian general equilibrium as the analytical point of departure from which the entrepreneur acts a disequilibrating force. By disrupting a preexisting equilibrium, the entrepreneur in Schumpeter (1947 [1942], p. 83) creates new profit opportunities through non-price adjustments, such as the introduction of “new consumers’ goods, the new methods of production or transportation, the new markets, [and] the new forms of industrial organization that capitalist enterprise creates” through entrepreneurial innovation. According to Kirzner (2009, p. 146; emphasis original),

The Schumpeterian entrepreneur does not passively operate in a given world, rather he creates a world different from that which he finds. He introduces hitherto undreamt of products; he pioneers hitherto unthought of methods of production; he opens up a new market in hitherto undiscovered territory. In so doing the entrepreneur is, in the Schumpeterian view, pushing (what might otherwise have been) an equilibrium market *away* from equilibrium. His creativity disrupts what would otherwise have been a serene market.

Rothbard (1987, p. 98) describes some of the analytical difficulties posed by Schumpeter’s dedication to general equilibrium as characterizing both the beginning and ending states of the market process. Namely, in a world where UVs and IVs are fully aligned, there is no scope for entrepreneurial profit and loss. However, “since change, entrepreneurship, profits, and losses clearly exist in the real world, Schumpeter set himself the problem of integrating a theoretical explanation of such change into the Walrasian system.” In such a Walrasian system, any change that disturbs the perfect correspondence between UVs and the prevailing IVs must occur through some exogenous *deus ex machina*. Since changes in tastes and resources are ruled out within general equilibrium, Schumpeter finds the necessary exogenous shock in the entrepreneurial “innovation” permitted through the issuance of inflationary bank credit. Discrete disturbances in UVs initiated

by entrepreneurial innovation then send shockwaves throughout the economy, breaking the market out of general equilibrium with a boom before readjustments bring it back to its unchanging placidity with a newfound alignment of UVs and IVs. As Rothbard (1987, p. 102; emphasis original) notes, “in the Austrian tradition of von Mises and Kirzner, the entrepreneur harmoniously adjusts the economy in the direction of equilibrium,” as “successful entrepreneurs reap profits by bringing resources, costs and prices further in the direction of equilibrium.” However, since Schumpeter envisions the market economy starting at a position of general equilibrium, “the *only* role for entrepreneurship, by logical deduction, is to innovate, to disrupt a preexisting equilibrium.”

Retrospectively summarizing his earlier works drawing attention to the differences between these two different conceptions of the entrepreneur, Kirzner (1999a, p. 5; emphasis original) notes how “Schumpeter’s entrepreneur … was essentially disruptive, *destroying the pre-existing state of equilibrium*. My entrepreneur, on the other hand, was responsible for the tendency through which initial conditions of disequilibrium come systematically to be displaced by *equilibrative* market competition.” As Boudreaux (1994, p. 57) writes, “[w]hereas Schumpeter highlighted those activities that change the givens, Kirzner’s focus is on the activities that actually establish equilibrium prices given the particular givens.” Loasby (1989, p. 178) puts the same point succinctly when he writes, “[w]hereas Kirzner’s entrepreneurs respond to changing data, Schumpeter’s cause the data to change.”

### III.A. THE TYPE OF EQUILIBRIUM IN MENGER’S PRINCIPLES

Since the dichotomy between Schumpeterian and Kirznerian entrepreneurship principally turns on whether entrepreneurship can be characterized by disequilibrating “innovation” or equilibrating “alertness” to arbitrage opportunities, it is first important to clarify Menger’s own use of the “equilibrium” construction in his theory of price formation in order to see how Menger’s conception of entrepreneurial activity incorporates both Schumpeterian and Kirznerian elements and therefore transcends the apparent dichotomy.

Whereas Jaffé (1976, p. 513) argues that Walras derived the idea of marginal utility, or “rareté” in Walras’ case, only out of the conception of general equilibrium, he also recognizes that one cannot say the same for Menger. Instead, “Menger kept too close to the real world for either the verbal or the symbolic formulation of the [marginalist] theory; and in the real world he saw no sharply defined points of equilibrium, but rather bounded indeterminacies not only in isolated bilateral barter but also in competitive market trading” (Jaffé 1976, p. 520). Where Schumpeter (2006 [1954], p. 918) himself considered the principle of marginal utility “not so important” as compared to Walras’ system of general equilibrium as a whole, Jaffé (1976, p. 520; emphasis original) finds that Menger “was too conscious of the ubiquitous obstacles that, even *ceteris paribus*, impede the attainment of market equilibrium,” obstacles which include not only the pervasive element of uncertainty but also more practical considerations such as transportation costs and barriers to trade more generally. Jaffé (*ibid.*) puts it well when he writes,

With his attention unswervingly fixed on reality, Menger could not, and did not, abstract from the difficulties traders face in any attempt to obtain all the information required for anything like a pinpoint equilibrium determination of market prices to emerge, nor did his approach permit him to abstract from the uncertainties that veil the future, even the near future in the conscious anticipation of which most present transactions take place.

Streissler (1972, pp. 438-439) goes even further than Jaffé when he writes that compared to his later follower Wieser, “Menger … could not even conceive of equilibrium as anything precisely describable. His economics in its substantive content was disequilibrium economics. … Menger wanted to sketch the forces leading towards equilibrium while leaving it undecided how quickly equilibrium tends to be approached and how closely it is approximated.” However, as described earlier, others in the Austrian tradition such as Kirzner (1978), Sautet (2015) and Vaughn (1994) dispute the extent to which Menger’s theory of price formation can

be characterized in disequilibrium terms on account of his seeming abstraction from ignorance and error within his theory of price formation.

While Menger (1981 [1871], p. 188) certainly does recognize some form of equilibrium as prevailing between individuals on the market when mutually beneficial exchanges are perceived, he describes the attainment of such an equilibrium as “points of rest at particular times, for particular persons, and with particular kinds of goods.” Salerno (1999, p. 95) recognizes the notion of equilibrium that Menger is employing as the same as what Böhm-Bawerk would call “momentary equilibrium” or what Mises (1966 [1949], pp. 244-45) would refer to as the “plain state of rest.” This everyday notion of equilibrium does not refer to the imaginary construction of long-run equilibrium (the “final state of rest” in Misesian terminology) towards which the market is moving at every instant yet cannot conceivably be reached in a world of constantly changing UVs.

Therefore, Menger’s theory of price formation does not start or end in equilibrium in the sense of the imaginary constructions of the final state of rest (FSR) or the evenly rotating economy (ERE), the latter of which is the closest Austrian analogue to the state of Walrasian general equilibrium that for Schumpeter serves as a description of reality. Instead, exchange opportunities are temporarily exhausted when traders can no longer identify mutually beneficial exchanges. Kirzner (1999b, p. 219) himself defines this state of rest as constituting “the completion of transactions between only those who are aware of the existing situation.” However, this temporary state is disturbed whenever the value scales of individuals change, new goods are brought to market, or new organizational structures are introduced that stimulate the perception and exhaustion of new mutually beneficial trading opportunities. Vaughn (1990, p. 384) in fact comes close to this understanding of plain state of rest prices when she writes that in Menger’s *Principles*, “economic equilibria are at best partial and ephemeral. The world is characterized more by constant flux than by equilibrium states, although equilibrium may obtain from time to time.”

### III.B. MENGERIAN ENTREPRENEURSHIP IN SCHUMPETERIAN AND KIRZNERIAN TERMS

While we cannot say that Schumpeter follows Menger insofar as Schumpeter conceives the market economy as characterized by a state of general equilibrium, Westgren (2020, p. 289) recognizes that Menger’s “ontology ... for imputation of value from the market between entrepreneurs and potential buyers” at the very least implicitly involves a process by which “the entrepreneur designs the new entry product to be qualitatively different from incumbent products or to have a cost structure that is superior for a qualitatively similar product,” which would be technological innovation in the Schumpeterian sense. Sautet (2015, p. 68) also recognizes how Menger “emphasizes product variation [and] the qualitative dimension of competition.” Streissler (1972, pp. 430-431) also sees Schumpeterian elements in Menger’s conception of technical progress and finds that “Mengerian goods are three-dimensional: they have quantity, quality, and variety as separate dimensions of dynamic change.” Although Kirzner (1978, p. 32) does not find the evidence provided by Streissler (1972) linking Mengerian and Schumpeterian entrepreneurship wholly convincing, he nevertheless considers the possibility of a strongly Mengerian influence on Schumpeter to remain as “a fascinating possibility.”

Mengerian entrepreneurship can also be considered Schumpeterian in the sense that it also involves choice over the market structures within which exchange and price formation take place. As described earlier in this paper, Menger recognizes that the choice over such institutional structures often involves a deliberate decision on the part of economizing individuals seeking to maximize profit and can include such arrangements as fairs, auctions, or simple market settings. Such institutional innovation can also be understood as a shift in UVs in the sense that different exchanges are then made possible and therefore a different array of prices may form according to peculiarities of each situation.

Mengerian entrepreneurship is thus disruptive in the Schumpeterian sense of introducing product and institutional innovation to facilitate exchange, but such disruptions also create the context within which

Kirznerian arbitrage then takes place by closing the gap between what Menger calls “uneconomic” and “economic” prices. As Moss (1978, p. 25) puts it clearly in Kirznerian terms, the “group of professional middlemen and speculators” Menger recognizes as important to ensuring the formation of “economic” prices “will be ‘alert’ to opportunities for profitable arbitrage. Their actions will iron out price differences and guarantee that the commodity will sell nearly everywhere for the same market price.”

In his *Principles*, Menger (emphasis original; 1981 [1871], p. 248) regards “economic prices” as those prices that correspond to the “general economic situation.” In his later *Untersuchungen über die Methode der Socialwissenschaften und der Politischen Oekonomie insbesondere (Investigations into the Method of the Social Sciences with Special Reference to Economics)*, Menger (emphasis in original; 1985 [1883], p. 71) notes how “as a rule *real* prices deviate more or less from *economic* ones” on account of factors such as ignorance, error and external force inhibiting the realization of mutually beneficial trading arrangements. As such, Menger’s “economic prices” can be said to correspond to a situation in which market prices (IVs) better reflect the information embodied in UVs.

If disequilibrium is characterized by a discrepancy between UVs and IVs, this reflects the fact that, from the array of the available resources and technological possibilities, there remains a subset of economically feasible possibilities that have not been actuated. The gap between more or less “economic” market prices due to ignorance, error, or external impediments to trade therefore present profit opportunities for enterprising entrepreneurs to facilitate greater correspondence of IVs with UVs. Such dovetailing between these two sets of variables facilitates the formation of *more* “economic” prices, even given the constantly changing UVs in the real world.

The way in which the Mengerian entrepreneur transcends the Schumpeterian-Kirznerian dichotomy is best stated by Streissler (emphasis original; 1972, p. 433) when he writes, “Mengerian man thus knows little about the present, though, interesting enough, he is constantly trying to *increase* his knowledge, creating *social institutions* to gather information, empowering growing droves of middlemen to act on his behalf.” The Mengerian entrepreneur is innovative in the Schumpeterian sense of introducing new possibilities for productive specialization and exchange. Yet, at the same time, such “innovation” can be understood as Kirznerian not because the entrepreneur creates new technological possibilities. Rather, the introduction of such possibilities comes “*because of expanded awareness of existing opportunities*” (emphasis added; Kirzner 1985, p. 74).

#### IV. CONCLUSION

In this paper, we have sought to demonstrate how the entrepreneurial role as described in Menger’s *Principles of Economics* is systematically integrated with the process of price formation and economic development in general. First, entrepreneurs arrange and supervise the production process by which higher-order goods are transformed into lower-order goods. Then, middlemen can assume the entrepreneurial function in bringing together producers and consumers to discover mutually beneficial exchanges. Finally, speculators can then engage in arbitrage when they perceive price differences not simply explained by transportation costs. In each stage towards the final sale of the good, the chance of error is necessarily present as purchases and anticipated sales are separated in time and therefore involve uncertainty. At the same time, Menger associates the overall process of economic development with increasing knowledge over the suitability of various means for the attainment of desired ends, allowing the formation of increasingly “economic” prices as information spreads more easily and more individuals are able to participate in market exchanges.

Furthermore, we have also shown how this more systematic conception of the Mengerian entrepreneur incorporates key Schumpeterian and Kirznerian elements and unites them into a coherent account of the market process. Entrepreneurial innovation occurs along multiple dimensions in Menger’s *Principles*, not only concerning product differentiation in terms of quantity and quality but also the institutional configurations within which exchange occurs. Such innovations, by operating through changes in prevailing

UVs (Schumpeterian entrepreneurship), then opens space for price-adjusting behavior on the part of alert speculators to bring IVs into line with these new and continually changing UVs (Kirznerian entrepreneurship). At the same time, prices become progressively “economic” through the formation of institutions that facilitate the spread of knowledge concerning the range of goods available at certain prices. Menger therefore provides a robust and *realistic* account of the market process that at its core is driven by entrepreneurial activity that incorporates both price-adjusting and non-price adjusting behavior, thereby transcending the Schumpeter-Kirzner dichotomy.

## REFERENCES

Boettke, P. J. 1992. Review of *Carl Menger and the Origins of Austrian Economics* by Max Alter. *Journal of Economic History* 52(2): 519–521.

Boudreaux, D. J. 1994. Schumpeter and Kirzner on Competition and Equilibrium. In: Boettke, P. J., and Prychitko, D. L. (Eds.) *The Market Process: Essays in Contemporary Austrian Economics*, pp. 52–60. Aldershot: Edward Elgar.

Campagnolo, G., and Vivel, C. 2014. The Foundations of the Theory of Entrepreneurship in Austrian Economics – Menger and Böhm-Bawerk on the Entrepreneur. *Revue de Philosophie Économique*, 15(1): 49–97.

Ebeling, R. M. 2021. Carl Menger's Theory of Institutions and Market Processes. American Institute for Economic Research. Accessed 16 April 2021. <https://www.aier.org/article/carl-menger-s-theory-of-institutions-and-market-processes/>

Jaffé, W. 1976. Menger, Jevons and Walras De-Homogenized. *Economic Inquiry* 14(4): 511–524.

Kirzner, I. M. 1978. The Entrepreneurial Role in Menger's System. *Atlantic Economic Journal* 6(3): 31–45.

\_\_\_\_\_. 1979. *Perception, Opportunity, and Profit*. Chicago: University of Chicago Press.

\_\_\_\_\_. 1985. *Discovery and the Capitalist Process*. Chicago: University of Chicago Press.

\_\_\_\_\_. 1992. *The Meaning of Market Process: Essays in the Development of Austrian Economics*. New York: Routledge.

\_\_\_\_\_. 1999a. Creativity and/or alertness: A reconsideration of the Schumpeterian entrepreneur. *The Review of Austrian Economics* 11(1/2): 5–17.

\_\_\_\_\_. 1999b. Mises and His Understanding of the Capitalist System. *Cato Journal*, 19(2): 215–228.

\_\_\_\_\_. 2000. *The Driving Force of the Market: Essays in Austrian Economics*. New York: Routledge.

\_\_\_\_\_. 2009. The alert and creative entrepreneur: a clarification. *Small Business Economics* 32: 145–152.

Klein, P. G. 2008. The Mundane Economics of the Austrian School. *The Quarterly Journal of Austrian Economics* 11(3/4): 165–187.

Loasby, B. J. 1989. *The Mind and Method of the Economist, A Critical Appraisal of Major Economists in the Twentieth Century*. Aldershot: Edward Elgar.

Menger, C. 1981 [1871]. *Principles of Economics*, Dingwall, J., and Hoselitz, B. F. (Tr.). New York: New York University Press.

\_\_\_\_\_. 1985 [1883]. *Investigations Into the Method of the Social Sciences*, F. J. (Tr.). New York: New York University Press.

Mises, Ludwig von. 1966 [1949]. *Human Action: A Treatise on Economics*, 3<sup>rd</sup> Edition. Chicago: Henry Regnery.

Moss, L. S. 1978. Carl Menger's Theory of Exchange. *Atlantic Economic Journal*, 6(3): 17–30.

Rothbard, M. N. 1987. Breaking Out of the Walrasian Box: The Cases of Schumpeter and Hansen. *The Review of Austrian Economics*, 1(1): 97–108.

Salerno, J. T. 1999. Carl Menger: The Founding of the Austrian School. In: Holcombe, R. G. (Ed.). *The Great Austrian Economists*, pp. 71–100. Auburn: The Ludwig von Mises Institute.

Sautet, F. 2015. Market Theory and the Price System. In: Boettke, P. J., and Coyne, C. J. (Eds.). *The Oxford Handbook of Austrian Economics*, pp. 65–93. New York: Oxford University Press.

Schumpeter, J. A. 1947 [1942]. *Capitalism, Socialism, and Democracy*, 2nd Ed. New York: Harper & Brothers.

\_\_\_\_\_. 1951. *Ten Great Economists: From Marx to Keynes*. New York: Oxford University Press.

\_\_\_\_\_. 2006 [1954]. *History of Economic Analysis*. London: Routledge.

Streissler, E. 1969. Structural Economic Thought: On the Significance of the Austrian School Today. *Zeitschrift für Nationalökonomie/Journal of Economics* 29(3/4): 237–266.

\_\_\_\_\_. 1972. To What Extent Was the Austrian School Marginalist? *History of Political Economy* 4: 427–441.

Vaughn, K. I. 1990. The Mengerian Roots of the Austrian Revival. In: Caldwell, B. J. (Ed.). *Carl Menger and His Legacy in Economics*, pp. 379–407. Durham, NC: Duke University Press.

\_\_\_\_\_. 1994. *Austrian Economics in America: The Migration of a Tradition*. New York: Cambridge University Press.

Yagi, K. 2011. *Austrian and German Economic Thought: From Subjectivism to Social Evolution*. New York: Routledge.

Westgren, Randall. 2020. Carl Menger's Grundsätze as a Foundation for Contemporary Entrepreneurship Research. *The Quarterly Journal of Austrian Economics*, 23(3/4): 281–312.

# Preferential Attachment and Carl Menger's Theory of the Endogenous Emergence of a Medium of Exchange

CASEY PENDER

Carleton University

**Abstract:** This paper outlines Carl Menger's theory of monetary evolution through a network science perspective. Drawing on the works of Price (1976) and Barabasi and Albert (1999) among others, parallels are drawn between Menger's account of a tradable good emerging as one half of every exchange and the mechanisms by which certain papers rise to the top of a citation list or how certain websites are vastly more popular than others. This phenomenon of spontaneous self-organization into a hub-and-spoke network is known as preferential attachment. I argue that by viewing the endogenous emergence of money as a preferential attachment process, monetary economics could be enriched. Finally, this paper highlights the spontaneous self-organization of complex trade networks leading to the creation of a medium of exchange as evidence to bolster the classical liberal perspective while cautioning against attempts to build such complex networks from the top down.

**Keywords:** Networks, Preferential Attachment, Menger, Endogenous Money

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## 1. INTRODUCTION

Language, webpages, brains, social arrangements, and ecosystems. Traditionally, these are topics studied in different departments and in different groups with little overlap. Yet in the past quarter century, researchers have begun to see commonalities in the way in which systems such as these operate—general trends, and even rules, which seem to dictate the evolution of networks independent of the make-up of the network components. The study of this has become known as network science: an interdisciplinary endeavor aiming to understand the complex connections observed in many different academic fields (and in everyday life). Physicists, neuroscientists, computer scientists, biologists, epidemiologists, and even the occasional economist all study networks and have begun to see and share these commonalities that bridge their respective disciplines.

Perhaps one of the most interesting and fruitful discoveries of network science is that as many real-world networks evolve, they spontaneously self-organize into what can be characterized by a hub-and-spoke system. A hub in this context is a node which is vastly more connected to the network than other nodes. For example, Google is a site that links to far more websites than the average website, New York City is bigger than the average American city, and *The Use of Knowledge in Society* by Hayek (1945) is cited by far more economists than the average economic pa-

per. Studying these hubs is crucial to understanding the networks in which they exist. Due to the way they dominate a network, nearly all travel through the network will pass through a hub, and therefore, hubs have the ability to massively influence the system. According to Barabási and Bonabeau (2003, p. 62), finding hubs in so many seemingly unrelated and different types of networks offers a “convincing proof that various complex systems have a strict architecture, ruled by fundamental laws—laws that appear to apply equally to cells, computers, languages and society.”

Though writing nearly a century before network science became a distinct discipline, when Carl Menger (1950 [1871], 1892) gave an account of how media of exchange emerge through trade, he seems to have anticipated some of the key features of this strict architecture. Menger describes a hub-generating feedback loop where successfully traded goods beget success in future trades. In network science this phenomenon is now known as “preferential attachment” (Barabási and Albert 1999). In the context of Menger, this preferential attachment continues until one good eventually becomes so widely accepted that it is one half of every exchange. What we call money, then, is whatever good evolves into the hub of the trade network.

The goal of this paper is to explore Menger’s theory of the endogenous emergence of money as understood through the lens of modern network theory, in particular using the concept of preferential attachment.<sup>1</sup> It is my conjecture that through this new connection, fruitful avenues for collaboration may open which could aid in the further advancement of Mengerian research program. Not only would this present an opportunity to better understand why we use money and its central role in trade, but it also has implications for studying spontaneous orders and classical liberalism more generally.

Section 2 of this paper gives an overview of some of network science’s more recent history while going over some important concepts and terminology. This section also presents a simple and general model of a growing network with preferential attachment. It is hoped that by seeing the exciting work being done in this field, readers will be drawn to comparisons with economics and see how the tools of network science can help further our research.

Section 3 then presents Menger’s theory of the endogenous emergence of money through the lens of modern network theory, seeing trade as a pattern of human interaction. Thus, it is shown how as money begins to come about, it sets off the feedback mechanisms of preferential attachment, which spontaneously organize the economy into a hub-and-spoke network. This section further discusses some of the more recent endogenous money models and their relationships with Menger; specifically, those working within Monetary Search as well as more modern work directly in the Mengerian tradition, or what Salter and Luther (2014) have termed the “Spontaneous Order” tradition.

Section 4 begins by asking if the resulting network structures from spontaneous processes are likely to be more desirable outcomes than consciously designed networks. It is argued that by traders having incentives to be interested in a good’s properties beyond just acceptability, first-mover advantage and other worries can potentially be overridden. Using more of the recent network science literature, it is also cautioned that imposing a hub-and-spoke trade network on a group of traders from the top down might be too difficult of a task to be successful.

Finally, section 4 ends with a discussion of network attack and failure. While hub-and-spoke networks are shown to be incredibly robust to random node failure, they can be quite frangible if the hub is disrupted. In this sense, while the spontaneous pattern of monetary trade which emerges from preferential attachment is a very resilient system as a whole, it can go awry in the face of monetary disruption. This is an important area of further study because it is all too easy to confuse the effects of money mismanagement with market failure. If the underlying network topology is not well known and understood, misguided and illiberal policies can be the result. Section 5 offers concluding remarks.

## 2. BUILDING NETWORKS THROUGH PREFERENTIAL ATTACHMENT

The beginning of network science as a unique field of study arguably begins with the works of Erdős and Rényi (1960) who, according to Barabási (2016), were the first to combine probability theory, combinatorics, and graph theory for the study of networks.

Before explaining these early network models, it may be helpful to first think of what is known as a complete network—a network in which each component, or node, is connected with every other node via a link. A relevant example of a complete network is a Walrasian auction house. In such a place every imaginable good can trade for any other good (at the right price) instantaneously. Menger (1892, p. 243), however, believed this was not an accurate depiction of real networks of trade:

It is an error in economics...that all commodities, at a definite point of time and in a given market, may be assumed to stand to each other in a definite relation of exchange, in other words, may be mutually exchanged in definite quantities at will.

Indeed, most networks are not complete, and so modeling them as such can result in erroneous understanding and prediction (Amaral et al 2000). No airline has a direct flight to and from every airport in the world, I do not know or interact with all the billions of other humans on the planet, and a single neuron in your brain only shares a synaptic connection with a fraction of your other neurons. Real networks are most often sparse, meaning that the average amount of links one would have to travel along to get from one node to another is greater than one. How sparse a network is, then, can be quantified by the average path length between the nodes in the network.<sup>2</sup>

Recognizing this common attribute of sparsity in networks, Erdős and Rényi (1960) began to model nodes as connecting to each other randomly. They constructed an elegant model where they envisioned the probability of two nodes connecting as determined by a Poisson distribution, making the network topology essentially random. While the specific shape of each Erdős and Rényi network shape is unpredictable *a priori*, general rules or patterns can be studied and understood. For example, the degree of any node—the number of connections between it and all other nodes—will likely not differ significantly for the average degree.<sup>3</sup>

Yet, as mentioned in the introduction, many networks have hub nodes—nodes that dominate the network in terms of connectivity. Though the Erdős and Rényi model was truly ground-breaking, the existence of these types of outliers, or network hubs, cannot be explained using Poisson distributions or any other random connection mechanism.

One of the first proposed models of an underlying process that could explain the existence of hubs came from Price (1976).<sup>4</sup> Price began by observing that heavily cited academic papers are more likely to be cited again in the future; there is a positive feedback loop where success begets success. As Price (p. 292) generalized it:

A paper which has been cited many times is more likely to be cited again than one which has been little cited. An author of many papers is more likely to publish again than one who has been less prolific...Words become common or remain rare. A millionaire gets extra income faster and easier than a beggar.

Motivated by these observations, he modeled the most recent academic papers as being newly created nodes which enter the network and preferentially attach to older papers.<sup>5</sup> A link between nodes thus represents a citation, and a node's degree tells how many citations that paper has had. With this set-up, his model was able to predict hubs—papers that have degrees far above the average degree, or in other words, get cited vastly more than most other papers.

Price (*ibid.*) understood that his methods could be extended beyond citations and lamented that the “full elegance” of modeling these types of feedback loops was not yet “widely appreciated.” It was not until the later internet boom that researchers outside of bibliometrics and information sciences took network evolution more seriously (Newman 2018).

When Barabási and Albert (1999) presented an algorithm for producing these hub networks in a simple and generalizable way, things really began to take off. Unlike Price’s model where links between nodes were directional, Barabási and Albert thought of connections as having no direction, or alternatively could be thought of as going in both directions. While the dictional model makes sense for citations, Barabási and Albert’s set-up is a better model for trade because trade, by definition, goes both ways.<sup>6</sup> From here they build a network with two simple rules: “(i) networks expand continuously by the addition of new [nodes], and (ii) new [nodes] attach preferentially to sites that are already well connected” (p. 509). With only two rules, they find that the resulting topologies match real-world networks better than the Erdős and Rényi model—like Price’s model, their preferential attachment model creates hubs.

Further details and extensions of preferential attachment models have been numerous (see Krapivsky and Redner (2001), Dorogovtsev et al (2000), Bianconi and Barabási (2001) for examples), and have been used to model evolving networks in fields as diverse as linguistics (Dorogovtsev and Mendes 2001) to ecological webs (Williams and Martinez 2000). Drawing from this body of work, we can outline a simple model of a growing network exhibiting preferential attachment which can be used in the next section to better understand Mengerian trade networks and money in this context.

Let us begin with  $X$  randomly connected nodes at time  $t_0$ ,<sup>7</sup> where we assume that a new node enters the network at each discrete time interval, such that the total nodes,  $N(t)$ , in the network at any given time,  $t$ , is equal to  $X + t$ . Whereas the initial  $X$  nodes are connected randomly, each new node  $i$  that enters at  $t = t_0 + i$  connects preferentially to  $c \leq X$  existing nodes, much like as in Barabási and Albert (1999). This can be stated as  $\rho_{i,j} \propto \alpha_j + q_j(t)$ , which says that the probability of new node  $i$  connecting to existing node  $j$  is proportional to both the fitness of  $j$ , represented by  $\alpha_j$ , and the amount of connections node  $j$  already has at time  $t_0 + i$  is represented by  $q_j(t)$ .<sup>8</sup> While  $\alpha_j$  is a positive constant,  $q_j(t)$  can vary with time as existing nodes can gain new links. For simplicity, if it is further assumed that new nodes entering the network always create a single link to an existing node, i.e.  $c = 1$  and  $\sum_{j=1}^N \rho_{i,j} = 1$ , then, in its simplest form, our model of preferential attachment can be summarized by:

$$\rho_{i,j} = \frac{\alpha_j + q_j(t)}{\sum_{k=1}^N (\alpha_k + q_k(t))} \quad (\text{equation 1})$$

This would surely need to be built upon to fully capture all of the network properties found in Menger and which would make up a comprehensive model exhibiting an endogenous emergence of money. For example, building in mechanisms for the addition and subtraction of links between existing nodes, such as in Dorogovtsev and Mendes (2001), would be a good start. Nonetheless, a simple setup as presented here in (1) offers a “minimal proof-of-principle model whose main purpose is to capture the basic mechanisms responsible for the emergence” of hubs (Barabási 2016, p. 192).

With a mechanism for preferential attachment established, the next section shows how this can be applied to Menger’s endogenous money theory, and how such formulation fits within other monetary scholarship.

### 3. MENGER’S ENDOGENOUS MONEY: A MODERN PERSPECTIVE

While there are exceptions, some of which will be discussed later, the workhorse models in monetary economics currently fall under the paradigm of Dynamic Stochastic General Equilibrium (DSGE). While these techniques have allowed for greater understanding of the effects of central bank policy, they make no claims

as to why agents would require a medium of exchange to conduct trade. In fact, many influential DSGE models (following Woodford (2003)) do not have money as a variable at all.

Some effort has been made to bring money directly into DSGE models. For example, using the cash-in-advance restraint of Clower (1967) has been a clever tactic to bring money into the utility function and thus have a medium of exchange play a role in DSGE (see Chari and Kehoe (1999) and Danthine and Kurmann (2004) for some examples). Yet, even here, these models exogenously impose that money must be used in trade and have little to say about why or how it is that people come to use a medium of exchange in the first place.

This tension arguably stems from the Walrasian general equilibrium framework on which much of monetary economics is based.<sup>9</sup> Thinking in terms of networks, assuming any good can trade for any other good is akin to a complete network where the average path length between any two nodes is one. With such a topology, no unique hubs exist, and there is, therefore, nothing unique about money in terms of its connectivity to other goods.

In his writings on money, Menger (1950 [1871], 1892) works to establish a much different framework. His story of the emergence of money begins in a world of barter, however, Menger does not conceptualize this initial bartering stage as a complete network (like a Walrasian auction), but a sparse network where few trades can take place on a regular basis. Thinking of classes or groupings of goods as nodes (where links between nodes signify the possibility of trade between these goods) and mapping out the topology of this initial trade network, we would expect a relatively small number of nodes, with the trade network exhibiting high average path length.<sup>10</sup> Referencing back to the previous section, the nodes in this initial barter phase could be modeled as  $X$  at  $t_0$ .

Furthermore, the background conditions for Menger's endogenous money model do not contain rational utility-maximizing agents with full information who are able to probabilistically form expectations on future events as in so many models common today. Instead, Menger envisioned people as he saw them acting in the real world: as fallible but capable actors trying to do their best with what they have.<sup>11</sup> Understanding this, it becomes apparent that traveling between nodes incurs a cost. Given a non-zero cost from trading, or "traveling", through the network, it is conceivable that this could outweigh the benefits of trade, making many otherwise mutually beneficial trades prohibitively costly. Thus, the initially high average path length implies "the number of bargains actually concluded must lie within very narrow limits" (Menger 1892, p. 242). In this setting, with the dark forces of time and ignorance abounding, trading with others is risky business.

Some agents may take on this risk, however, if they believe the good they are receiving in trade is likely to be more generally and readily acceptable in the marketplace than the goods currently held (Menger 1950 [1871], p. 260). The entrepreneurial innovation of these risk takers then is the understanding that there can be longer paths between nodes which can be traveled via indirect trade. If successful, this strategy will allow its implementers to eventually obtain more of the goods and services they ultimately desire compared to those who only engage in direct barter alone. According to Menger, once this first entrepreneurial step has taken place, the remaining agents will eventually adjust their heuristics in order to attempt to mimic these successful indirect trading strategies, for there is "no better way in which men can become enlightened about their economic interests than by observation of the economic success of those who employ the correct means of achieving their ends" (1950 [1871], p. 261). This can be thought of as the means by which preferential attachment enters the narrative. General acceptability, or the degree, of good  $i$  is equivalent to the total subjective value of the good as influenced by the  $q_i(t)$  term in (1),<sup>12</sup> which Menger (1892, p. 248 emphasis in original) clearly sees as influencing the decisions of traders:

[W]hen any one has brought goods not highly saleable to market, the idea uppermost in his mind is to exchange them, not only for such as he happens to be in need of, but, if this cannot be effected directly, for other goods also, which, while he did not want them himself, were nevertheless more

saleable than his own. By so doing he certainly does not attain at once the final object of his trafficking, to wit, the acquisition of goods needful to *himself*. Yet he draws nearer to that object.

Thus, as traders continually seek out goods which are highly connected there is “an increasing differentiation” between highly connected goods “and that of all other goods” as a higher  $q$  begets even higher  $q$ ’s (Menger 1892, p. 252). As such, as the system approaches a stage where  $q_h(t)$ , the hub’s degree, approaches  $N$ , the system as a whole will approach an average path length of two. If each movement between nodes is costly in and of itself as we have assumed, then  $q_h(t) \rightarrow 2$  implies a drastic reduction in transaction costs from sparse barter networks or other more random networks of indirect trade. And so “without any agreement, without legislative compulsion, and even without regard to the public interest,” a hub-and-spoke network forms which allows for far greater levels of mutual beneficial trades (Menger 1950 [1871], p. 260).<sup>13</sup>

Many of the key insights in this story begin with Menger’s break from the starting assumption that trade networks are complete. While much of current monetary economics still holds this complete network assumption implicitly (or explicitly) within their GE framework, not all monetary work has. Many have continued to research in the Mengerian spirit and start with the assumption that trade networks are sparse. Starting with Jones (1976) and then Kiyotaki and Wright (1989, 1993) and Wright (1995) to name a few, those working within Monetary Search theory have followed this line of reasoning and have done much to advance our understanding of money. Though the network terminology was not yet available to him, Jones (1976), for example, clearly understood the special role of hubs in the trade network. More recently, Luther (2014, 2016b) has made strides to link insights from Monetary Search with insights from Menger.<sup>14</sup>

While these search models capture important aspects of sparse networks, they do not fully incorporate the all of dynamics of growing networks where nodes attach preferentially. The early Kiyotaki and Wright models did not have new goods continually added (the network did not grow) and so there was no opportunity for preferential attachment. Furthermore, the workhorse model of Monetary Search theory developed by Lagos and Wright (2005) is a two-stage model where Walrasian markets operate at one of the stages. As beneficial to our understanding of money as search theory has been, it is still a sub-field fully entrenched in equilibrium-based economics.<sup>15</sup> It is mainly concerned with end states/steady states—if agents within the economy ultimately engage in indirect trade or if they do not—and is somewhat less concerned with modeling the process by which the use of money (or failure to do so) begins to come about. It is within this process where network theory can be applied. As Lavoie et al (1990) put it, “what is of interest is not what the end results are so much as how the process works.”

For Menger, the spontaneous societal convergence on a medium of exchange is not instantaneous; instead, it is an evolutionary process with feedback loops slowly molding the shape of the network. This feature in Menger has also been recognized as a general feature of networks, as Bianconi and Barabasi (2001, p. 436) confirm:

A generic property of these complex systems is that they constantly evolve in time. This implies that the underlying networks are not static, but continuously change through the addition and/or removal of new nodes and links.

Network theory in this regard seems to bring to the forefront process oriented and open-ended systems for which Menger had seen a need for in the study of human interaction and trade, but which is otherwise often downplayed or outright ignored.

Those working within what has become known as the Spontaneous Order tradition (Salter and Luther 2014) are, not surprisingly, the greatest exception to this, and have written extensively on the processes, particularly the feedback loops, guiding the evolution of hub-and-spoke networks. White (1984, 2002), for example, clearly discusses the feedback loops necessary in Menger’s theory and Selgin (2011 [1988], p. 80) even refers to money as a “hub.” Of those who have formally modeled endogenous money emergence in

the Mengerian spirit, Klein and Selgin (2002), Howett and Clower (2000), and Luther (2016a, 2018, 2019) perhaps come the closest to doing so from a network science perspective as advocated for here.<sup>16</sup> Klein and Selgin (2002) use a Polya urn process—an early version of preferential attachment—to depict the feedback loop leading all traders to eventually accept money. Howett and Clower (2000) borrow from biology and take an evolutionary model with similar feedback loops. Luther (2018, 2019) divides up the value of goods into two components that match up well with (1) presented here. These papers in particular seem to be getting at the preferential attachment element present within Menger's writings on money. While they have developed Mengerian models with modern techniques, they appear to be doing so unaware of, and independent from, the large body of network scientists who are modeling similar networks in other fields. It may be possible that taking their models and building on them by borrowing from existing models within network science could open new doors of discovery within monetary economics.

#### 4. NETWORK DESIGN AND NODE FAILURE: IMPLICATIONS FOR LIBERALISM

If the arguments thus far are correct, then bolstering the Mengerian research project with network science will illuminate how a medium of exchange *can* spontaneously emerge. However, this on its own does not speak to whether it *should* spontaneously emerge. One possible concern is that while preferential attachment can ensure a money emerges and reduces the cost of trade relative to barter and other more random indirect trade patterns, there is no guarantee that the good which ends up as money is in some sense the socially optimal choice. In other words, what if there are other goods out there that could be a better medium of exchange for society as a whole under certain important criteria, but which lose out due to first-mover network effects? After all, there are other seemingly inefficient institutions that persist in the real world. On this, White (2002, p. 271 emphasis in original) notes that “[s]ocial scientists have indeed not yet discovered any *universal* tendency towards better social institutions, any single mechanism that yields superior institutions *in all cases*.”

Preferential attachment in and of itself is not sufficient to produce efficient outcomes. Putting this in network science terms, setting  $\alpha_i = 0 \forall i$ , essentially eliminates the fitness of a good from affecting its probability of connecting with other nodes and eventually becoming a hub. In this case, all that affects the probability of future connections is past connections. Like in Barabási and Albert (1999) and in Klein and Selgin (2002), without fitness being modeled, first-mover advantage becomes a key driver in what becomes a hub and certain nodes deemed less desirable than other nodes can become “locked in” as hubs (Arthur 1989). When modeled as such, essentially there is no intrinsic properties within a node which can help predict its future degree. This could be problematic when evaluating networks from a social welfare perspective as researchers may have good reasons for thinking there are intrinsic properties which *should* influence the network topology. For example, towards the end of the nineteenth century many thought Esperanto was a much more logical and efficient language than the most commonly spoken European languages (Janton 1993) yet it never became wildly adopted. As another example, the US government in the 1970's declared “that the metric system is the preferred system for weights and measures in both trade and commerce of the United States” (Buchanan and Chang 1997) though its attempts towards its adoption were unsuccessful.

As already well documented by White (2002), however, given the logic in Menger's explanation of the endogenous emergence of money, it is in fact not very likely that the condition  $\alpha_i = 0 \forall i$  would ever hold in a forming network of trade. This is because people must take into account things like portability and durability etc.—in other words the goods' monetary fitness—if they are able to successfully navigate indirect trade.

White (2002) points this out with an example of an entrepreneur looking to engage in indirect trade in the early stages of the Mengerian story. In this case the agent must understand the important physical properties of the prospective good to accept in order to understand the likelihood of being able to trade this good again at a potentially unknown time and unknown place. If the agent plans to use a single good acquired now for many future trades, then they will likely be concerned about divisibility. Similar type con-

siderations would apply to “cognizability, durability, and stability of purchasing power.” White (2002, p. 277 emphasis in original) continues:

*Whatever* are the properties money must have to better satisfy the preferences of its users, the users of pre-monetary exchange media have a private incentive to seek those properties in choosing among exchange media.

While this paper is only meant to draw the connection between Menger and modern network theory, it is hoped that future research will be able to build networks based on equations like (1) which can experiment with different values of  $\alpha_i$  relative to  $q_i(t)$  to see under what conditions the nodes which are deemed the most fit have the best probabilities of becoming hubs. Further additions of elements such as link deletions could help study the environments in which switching from one medium of exchange to another and under could be possible. What is for certain is that successful indirect trade would require agents taking the fitness of the goods which they are accepting into account,<sup>17</sup> and as such, modeling the trade network as suggested here can (at least in part) eliminate worries of hubs forming regardless of important intrinsic features of the node itself.

Thus far, it has been suggested that a properly specified preferential attachment model could result in the spontaneous emergence of a socially optimal medium of exchange. Yet this on its own does not mean it is necessary for a socially optimal medium of exchange to arise in such a manner. In some circumstances, consciously planned and designed networks operate quite well. Take FedEx, which has its shipping hub in Memphis, meaning that most goods flow through there before their final destination (O’Kelly 2015). That did not come about spontaneously by FedEx employees slowly and spontaneously converging on Memphis. Instead, it was a conscious decision from management to arrange their distribution network as a hub-and-spoke system. In fact, Cancho and Solé (2003) have shown that when designing networks, having the designer work through an optimization problem will often result in the same hub-and-spoke topology as if it had evolved via preferential attachment.

And so, providing a solution for evolving networks says little about their preferability over designed and consciously planned networks with similar topologies such as FedEx’s distribution network. However, while it is true that we can observe hub-and-spoke networks that are consciously planned, this seems to be the exception rather than rule. As Newman (2018) notes, hub-and-spoke networks are most often the “result of a succession of random processes, often decentralized and quite blind to the large-scale structure they are creating.”

Furthermore, setting up such a system in a firm, like FedEx, is not the same as setting up such a system by a government. While FedEx employees are incentivized to follow the commands of their employers, getting citizens to follow government commands in a similar context may be a much more difficult task. While organizing a firm within society may be difficult for those in charge, it is still an order of magnitude less complex than the networks connecting society as a whole.

For example, Dorogovtsev and Mendes (2001) have studied language as a prime example of an evolving network which is not amenable to conscious design: Language is “so complex that it cannot be controlled but rather organizes itself while growing” (p. 2603). This principle extends beyond language to many other social institutions, as Hayek (1973, p. 24 emphasis added) observed: “The theory of complex spontaneously formed structures with which social theory has to deal, can be understood *only* as the result of a process of evolution.” Likewise, Barabási (2016, p. 190) asserts that in the formation of almost all complex networks, “structure and evolution are inseparable.”

Menger (1982, p. 250) did not think a planned hub-and-spoke network could be successfully implemented by any government from the top down:

It is not impossible for media of exchange, serving as they do the commonweal in the most emphatic sense of the word, to be instituted also by way of legislation, like other social institutions. But this is neither the only, nor the primary mode in which money has taken its origin.

It may be that Menger, recognizing the immense complexity of the trade network, thought preferential attachment type reasoning was the only way to fully understand the endogenous origins of money precisely because such complex networks are not easily controllable. For economists to study trade from a network perspective is to see the inherent difficulty, or even impossibility, of attempts to impose arrangements and structures of the patterns of trade exogenously. This includes attempts to create new media of exchange *ex nihilo*.

In Menger's view, however, just because social planners cannot arrange the topology of the trade network themselves from the top down, does not mean that the government could have no role in money creation. Menger (1892, p. 255) believed that "state recognition and state regulation" of media of exchange could help along an evolving trade network. A government recognizing and committing to accept a particular good,  $i$ , as well as ensuring quality, deterring fraud, *etc.*, would be equivalent to a positive exogenous shock to  $\alpha_i$ —increasing  $i$ 's fitness and thus increasing the probability of it evolving into a hub. Salter and Luther (2014) have elaborated on this point using similar reasoning.

How the network evolves to have a hub is one thing, but what happens to the hub and its influence on the network afterward is another. Again, network theory can help. For starters, it can help us model when fiat money will be widely accepted and when it will not. A fiat money can be thought of as good  $j$  with  $\alpha_j = 0$ , yet where  $q_j(t)$  is sufficiently high to call  $j$  a hub. It is clear that, under the assumptions of Sections 1 and 2, no good could become a medium of exchange if  $\alpha_j + q_j = 0$  at the time  $j$  enters the network. Because the probability of any new node attaching  $j$  in this case would be zero, its chances of evolving into a hub are also zero. However, models could be constructed with an exogenous negative shock to  $\alpha_j$  (representing a government, say, removing its currency from the gold standard), at a time in which  $q_j(t) > 0$ , to study the effect of transitioning from commodity monies to fiat.<sup>18</sup> Luther (2016a, 2018, 2019) has also used similar such models to discuss the possibility of wide acceptance of cryptocurrencies as media of exchange.

Perhaps where network theory can most help advance monetary theory for classical liberals is the study of network attacks and node failure. What Albert et al (2000) have shown is that hub-and-spoke networks are incredibly robust to random attacks or failure. By growing networks in a similar method to that of (1), they then begin to randomly remove nodes to simulate node failure. Because hubs will be so rare, a node chosen at random will almost certainly not be a hub, and as they explain further: "The removal of these 'small' nodes does not alter the path structure of the remaining nodes, and thus has no impact on the overall network topology" (Albert et al 2000, p. 380). What this speaks to in terms of trade networks is that we should expect them to be incredibly robust. Endogenously emerging money in Mengerian theory not only allows trade and economic conditions to improve, but it also forms a network that is resilient to random failure. Studying this aspect of Menger may lead to better arguments against those who portray the macroeconomy as inherently fragile or unstable.

On the other hand, Albert et al (2000) and others (O'Kelly 2015) have noted that there is an inherent fragility in hub-and-spoke networks when the removal/alternation of nodes is non-random. When hubs are deliberately targeted in this type of network, it drastically decreases the overall connectivity of the network and increases the average path length. Nodes that were once connected via a hub may get cut off completely from each other and the rest of the network, leading to a complete alteration of the network's topology.

This insight aligns well with the works of monetary economists who have long seen most depressions and network-wide failures stemming first and foremost from monetary issues (for example, Yeager (1956)). Building on their work by modeling monetary disruptions as hub failure or attack may help us better understand the trade cycle and economy-wide depressions.

As an analogy to another hub-and-spoke network, a storm at the Dallas/Fort Worth Airport can cause a ripple effect of flight delays in multiple cities across the world. Yet passengers delayed outside of Dallas are

likely to understand the hub-and-spoke nature of flight networks and so can comprehend that their delays are not caused by the sunny weather at the city they are in, but in the hub airport far away.<sup>19</sup>

Yet the topology of the trade network may not currently be as transparent to agents using it. A disruption to the usual functioning of a medium of exchange, like a storm in Dallas, can have cascading effects in multiple other markets. However, the buyers and sellers of, say, apples may not fully understand the way in which their frustrated plans are caused by monetary disturbances and falsely blame the apple market itself.

Historically, this type of misdiagnosis has troubling outcomes for anyone sympathetic to a broadly liberal society. As Simons (1936) noted, even if bad monetary policy is the culprit for slow economic growth or outright depression/recession, it is often hard for the public to see the connection and assumes a failure of the central bank is instead a market failure. And as Sumner (2012, p. 20) has also pointed out, some of the most intrusive government interventions in history have come at a time of deep recession; the Great Depression in the USA in the 1930s precipitated many unproductive, or even destructive, government policies. The depression, even worse in 1930s Germany, may have also contributed to the ascension of the Nazis to power. More recently, in the 2000s, Argentina's deep recession led the new government to blame their troubles not on monetary issue “but on its former free-market policies, just as FDR had done 70 years earlier”. Similar trends of the increased size of government can be found across the world since the 2008 crisis. Understanding the trade network's topology, then, and how hub failure can affect it, may not only help us avoid unnecessary and harmful depressions, but it could also help avoid harmful illiberal policies which may follow.

All of this is to say that hub failures are not always clear to the public, nor is the solution always agreed upon by economists or politicians. While networks evolving from preferential attachment have shown to be incredibly robust in general, they can be fragile when there are disruptions at the hub. From a classical liberal perspective, getting money right and ensuring smooth travel through the hub may be the best strategy for convincing the public of the merits of open and voluntary trade, and the social benefits of market mechanisms.

## 5. CONCLUDING REMARKS

Leon Walras—one of Menger's fellow revolutionaries in marginal analysis—clearly had an agenda to make economics more like Newtonian physics. He collaborated with a professor of mechanics to “conceive of the state of the market as a general problem of static equilibrium described by a system of equations” (Jaffe 1976) and asserted the “perfect similarity” in the “equations of general equilibrium with the equations of universal gravity” (Walras as quoted in Ingrao and Israel (2015 [1990], pp. 84–86). Likewise, Jevons (1892, p. 760)—another pioneer in marginal analysis—describes economics as “a kind of physical astronomy investigating the mutual perturbations of individuals.”

As has been documented by Jaffe (1976, p. 520), Menger approached economics from a widely different perspective than these two—he thought in terms of “bounded indeterminacies” and saw markets as dynamic rather than static. While Menger too was influenced by the sciences, he was more influenced by ecology or biology (Beccho 2014). Yet it was the mathematical elegance of Walras and Jevons that caught the imaginations of modern economists, leaving the less-mathematical Mengerians on the outside looking in.

As Lavoie et al (1990) have argued, however, those working in the Mengerian tradition have long noted that “the mathematics of differential calculus that has played such a central role in mainstream economics is not the appropriate mathematics for studying the economy” and that perhaps the more computational techniques employed in biology and other fields looking at complex open-ended systems:

might prove to be the kind of modeling approach that is process-oriented enough to help rather than obstruct economic theorizing. Thus it could constitute a useful new complement to the traditional procedures of theorizing that market process economists now employ.

Similar calls to Lavoie et al (1990) have been made by Hayek (1994 [1968]), Arthur (1989, 2015), Boettke and Veetil (2016), and Wagner (2020), all pointing out that many of the models and techniques used in different areas of natural science today may be more helpful for understanding human interaction than the physics that inspired Walras and Jevons. What I have attempted to argue in this paper is that network science has produced a plethora of particularly useful process-oriented modeling techniques that could help economic theorizing in understanding the role of money. This thinking in terms of evolving networks allows us to incorporate complex relationships such as feedback loops and open-ended systems without equilibria.

Furthermore, by not explicitly addressing the topology of the trade network, much of monetary economics is challenged from the outset to understand the influence that hubs can have on the system. Barabási (2016, p. 223) claims that if “we want to understand the structure of a network, we must first get its dynamics right.” If Barabási is correct, then starting from Menger’s assumption of sparse networks seems the better path for understanding trade networks. Getting the dynamics right is of vast importance, for, as has also been stressed in this paper, when the dynamics are modeled wrong, calls for illiberal policies can arise.

Given the complexities involved, formally modeling monetary economies in a way that is true to Menger and captures his most important insights is a daunting task. However, it could be made easier by borrowing from other fields that have already done the mathematical/computational leg work. Succeeding in this goal will give us a deeper understanding of the important role money plays in trade.

## NOTES

- 1 In this paper I refer to money in any model of society where agents naturally and spontaneously converge on a medium of exchange as “endogenously emerging”. This is not to be confused with a separate class of models sometimes called “endogenous money” models, where the use of a medium of exchange is imposed on agents exogenously, but where the total money supply is determined endogenously. “Endogenous money” in the latter sense then, is not concerned with how agents come to use money in the first place and thus not aimed at answering the same set of questions which are discussed in this paper.
- 2 The average path length of a complete network is one, as moving between any two nodes in a complete network requires traveling along only one link. One way to define sparse networks then is any network with an average path length greater than one. Using the citation network as an example, if a link is defined two papers is defined as one paper citing the other, then it has been estimated that the average path length between any two published works is just over eleven (Barabási 2016).
- 3 See Barabási (2016) for a more detailed history of the influence Erdős and Rényi have had on network science.
- 4 Another early study of the important role hubs play in certain networks was from Simon (1955).
- 5 Price used the term “cumulative advantage” to denote these types of feedback loops. The term “preferential attachment” did not enter the network lexicon until Barabási and Albert (1999).
- 6 Another difference between the two models is that Price (1976) imagined that the number of connections each new node made from entering the network was drawn from a random distribution. This was meant to represent the fact that bibliographies are not all the same length. Barabási and Albert (1999), by contrast, imagine that every node makes the same number of connections to the network denoted by  $c$ . For simplicity, I set  $c = 1$  for all discussions in this section. Yet none of this alters the key result at hand: the generation of hubs.
- 7 It turns out that the size of  $X$ , provided  $X < \infty$ , as well as the configuration of their connections, is of no influence on the asymptotic properties of the network as  $t \rightarrow \infty$  (Newman 2018).
- 8 No such  $\alpha_i$  is present in Barabási and Albert (1999), therefore in their original model, the probability of attachment is solely driven by the degree of existing nodes. Under such assumptions, a node with no connections can never gain any new connections. There is also a path dependence in which the older a node is, the more connections it is likely to have. Dorogovtsev et al (2000, p. 4633) introduce an  $\alpha$  which they call the node’s “initial attractiveness” because it allows nodes beginning with no connections the possibility of obtaining connections in the

future. This initial attractiveness is the same for all nodes in the network, however. It was Bianconi and Barabási (2001) who introduced the subscript to alpha, allowing each node its own value, which they called the node's "fitness." This allows the probability of a good becoming a hub to be driven by more than just its degree and, among other things, diminishes the first-mover advantage. As will be detailed in Section 3, this  $\alpha_i$  is key to understanding Menger's theory of endogenous money as a preferential attachment process.

- 9 For more on the issue of having a medium of exchange within a Walrasian GE framework, see Selgin (1994) and Luther (2016b).
- 10 More than just having a large average path length, it seems reasonable to imagine that in Menger's initial world of Barter as having an infinite average path length. This would imply for some pairs of goods, there exists no sequence of trades which could connect the two.
- 11 For a more detailed exposition of how Menger viewed and modeled economic agents see Campagnolo (2016).
- 12 The actual term Menger used for a good's connectivity or degree was *Absatzfähigkeit*, which has been translated in Menger (1892) as the good's "saleableness". Luther (2018) sets up a similar model, referring to good  $i$ 's degree,  $q_i$ , its "monetary value" and its fitness,  $\alpha_i$ , its "non-monetary" value.
- 13 For other modern retellings of the Mengerian theory of the endogenous emergence of money, see O'Driscoll (1985) and White (2002).
- 14 Luther (2014, 2016b) is specifically concerned with linking Monetary Search to the monetary economics of Ludwig Von Mises. However, as Mises was heavily influenced by Menger, Luther indirectly attempts to link Monetary Search with the Mengerian concept of the endogenous emergence of money to which Mises largely subscribed.
- 15 While early Monetary Search papers such as Jones (1976) and Kiyotaki and Wright (1989) directly reference Menger, Menger's works seem to have fallen out of the purview of more recent works in this field. The most widely used textbook on Monetary Search, Nosal and Rocheteau (2017), does not cite Menger once (nor does it cite Barabási and Albert (1999) or any other of the preferential attachment literature).
- 16 While not using the type of formal models discussed here, Duffy and Ochs (1999) could be added to this list. Instead of modeling endogenous money mathematically, they were the first to use experimental economics to observe these feedback loops directly, which is an interesting and promising technique for further examining preferential attachment.
- 17 Menger seems to have believed that due to some of their physical properties, precious metals would have the highest monetary fitness and thus would be most likely to become media of exchange. However, there is some tension between Menger (1950 [1871]) and Menger (1892) on this. In the later work, Menger seems to be suggesting that precious metals will almost always become a dominant medium of exchange, whereas in the former work he seems less willing to predict which particular goods will become hubs. This can be somewhat reconciled, however, if we simply interpret Menger (1892) as increasing his estimates of the  $\alpha$  of metals compared to most other goods. And so, metals under this new estimate would have a much better chance at becoming a hub, though it is still not guaranteed.
- 18 A similar model has been put forth by Selgin (2002) who also notes that, historically, the only successful fiat currencies have been ones which were originally pegged to commodities such as gold (or to other currencies which pegged to commodities). Thus, Selgin has shown that media of exchange can only become fiat once their hub position has already been established.
- 19 Rowe (2009) deserves credit for both making analogies between airports and money, as well as also noting hub-and-spoke topology of the trade network.

## REFERENCES

Albert, R., Jeong, H., and Barabási, A. -L. 2000. Error and Attack Tolerance of Complex Networks. *Nature* 406: 378–382.

Amaral, L. A. N., Scala, A., Barthélémy, M., and Stanley, H. E. 2000. Classes of Small-World Networks. *Proceedings of the National Academy of Sciences of the United States of America* 97(21): 11149–11152.

Arthur, B. W. 1989. Competing Technologies, Increasing Returns, and Lock-In by Historical Events. *The Economic Journal* 99(394): 116–131.

\_\_\_\_\_. 2015. Complexity and the Economy. New York: Oxford University Press.

Barabási, A. -L. 2016. *Network Science*. New York: Cambridge University Press.

Barabási, A. -L., and Albert, R. 1999. Emergence of Scaling in Random Networks. *Science* 286: 509–512.

Barabási, A. -L., and Bonabeau, E. 2001. Scale-Free Networks. *Scientific American* 288(5): 60–69.

Becchio, G. 2014. Carl Menger on States as Orders, not Organizations: Entangled Economy in a Neo-Mengerian Approach. In: *Entangled Political Economy: Advances in Austrian Economics*, Vol. 18, pp. 55–66. Bingley: Emerald Group Publishing Limited.

Bianconi, G., and Barabási, A. -L. 2001. Competition and Multiscaling in Evolving Networks. *Europhysics Letters* 54(4): 436–442.

Boettke, P. J., and Veetil, V. P. 2016. Models of Human Action. *Cosmos and Taxis: Studies in Emergent Order and Organization* 3(2+3): 45–55.

Buchanan, R. W., and Chang, K. Y. 1997. Developing Public Awareness and Acceptance of Metrication: Preliminary Analysis. *Journal of the Transportation Research Board* 1606(1): 149–155.

Campagnolo, G. 2016. The Identity of the Economic Agent—Seen from a Mengerian Point of View in a Philosophical and Historical Context. *Cosmos and Taxis: Studies in Emergent Order and Organization* 3(2+3): 64–77.

Cancho, R. F., and Solé, R. V. 2003. Optimization in Complex Networks. In: Pastor-Satorras, R., Rubi, M., Diaz-Guilera, A. (Eds.) *Statistical Mechanics of Complex Networks. Lecture Notes in Physics* Vol. 625, pp. 114–126. Berlin: Springer.

Champ, B., Freeman, S., and Haslag, J. 2016. *Modeling Monetary Economies*, Fourth Edition. New York: Cambridge University Press.

Chari, V. V., and Kehoe, P. J. date. Optimal Fiscal and Monetary Policy. *NBER Working Paper* 6891: 1–118.

Clower, R. W. 1967. A Reconsideration of the Microfoundations of Monetary Theory. *Western Economic Journal*, 6(1): 1–9.

\_\_\_\_\_. 1995. On the Origin of Monetary Exchange. *Economic Inquiry* 33(4): 525–535.

Danthine, J-P., and Kurmann, A. 2004. Fair Wages in a New Keynesian Model of the Business Cycle. *Review of Economic Dynamics* 7(1): 107–142.

Dorogovtsev, S. N., Mendes, J. F. F., and Samukhin, A. N. 2000. Structure of Growing Networks with Preferential Linking. *Physical Review Letters* 85(21): 4633–4636.

Dorogovtsev, S. N., and Mendes, J. F. F. 2001. Language as an Evolving World Web. *Proceedings of the Royal Society B* 268(1485): 2603–2606.

Duffy, J., and Ochs, J. 1999. Emergence of Money as a Medium of Exchange: an Experimental Study. *The American Economic Review* 89(4): 847–877.

Erdős, P., and Rényi, A. 1960. On the Evolution of Random Graphs. *Publications of the Mathematical Institute of the Hungarian Academy of Sciences* 5: 17–61.

Hayek, F. A. 1994 [1968]. The Theory of Complex Phenomena. In: Martin, M., and McIntyre, L. C. (Eds.) *Readings in the Philosophy of Social Science*, pp. 55–82. Cambridge MA: MIT Press.

\_\_\_\_\_. 1973. *Law, Legislation and Liberty, Volume 1: Rules and Order*. Chicago: University of Chicago Press.

Howitt, P., and Clower, R. 2000. The Emergence of Economic Organization. *Journal of Economic Behaviour and Organization* 41(1): 55–84.

Ingrao, B., and Israel, G. 2015 [1990]. *The Invisible Hand: Economic Equilibrium in the History of Science*. McGilvray, I. (Tr.) Cambridge MA: MIT Press.

Jaffé, W. 1976. Menger, Jevons and Walras De-Homogenized. *Economic Inquiry* 14(4): 511–524.

Janton, P. 1993. *Esperanto: Language, literature, and community*. Albany: SUNY Press.

Jones, R. A. 1976. The Origin and Development of Media of Exchange. *Journal of Political Economy* 84(4): 757–776.

Kiyotaki, N. and Wright, R. 1989. On money as a Medium of Exchange. *Journal of Political Economy* 97(4): 927–954

\_\_\_\_\_. 1993. A Search-Theoretic Approach to Monetary Economics. *The American Economic Review* 83(1): 63–77.

Klein, P. G., and Selgin, G. 2002. Menger's Theory of Money: Some Experimental Evidence. In: Smithin, J. (Ed.) *What is Money?* Second Edition, pp. 217–234. London: Routledge.

Krapivsky, P. L., and Redner, S. 2001. Organization of Growing Random Networks. *Physical Review E* 63(066123): 1–14.

Lagos, R., and Wright, R. 2005. A Unified Framework for Monetary Theory and Policy Analysis. *Journal of Political Economy* 113(3): 463–484.

Lavoie, D., Baetjer, H., and Tulloh, W. 1990. High-Tech Hayekians: Some Possible Research Topics in the Economics of Computation. *Market Process* 8: 119–146.

Luther, W. J. 2014. Evenly Rotating Economy: A New Modeling Technique for an Old Equilibrium Construct. *The Review of Austrian Economics* 27(4): 403–417.

\_\_\_\_\_. 2016a. Cryptocurrencies, Network effects, and Switching costs. *Contemporary Economic Policy* 34(3): 553–571.

\_\_\_\_\_. 2016b. Mises and the Moderns on the Inessentiality of Money in Equilibrium. *The Review of Austrian Economics* 29(1): 1–13.

\_\_\_\_\_. 2018. Is Bitcoin Intrinsically Worthless? *Journal of Private Enterprise* 33(1): 31–45.

\_\_\_\_\_. 2019. Getting off the Ground: The Case of Bitcoin. *Journal of Institutional Economics* 15(2): 189–205.

Menger, C. 1950 [1871]. *Principles of Economics*. Dingwall, J., and Hoselitz, B. F. (Tr.) Glencoe: The Free Press.

\_\_\_\_\_. 1892. On the Origin of Money. Foley, C. A. (Tr.) *The Economic Journal* 2(6): 239–255.

Newman, M. 2018. *Networks*. Second Edition. New York: Oxford University Press.

Nosal, E., and Rocheteau, G. 2017. *Money, Payments, and Liquidity*. Second Edition. Cambridge MA: MIT Press.

O'Driscoll, G. P. 1985. Money: Menger's Evolutionary Theory. *Federal Reserve Bank of Dallas Research Paper* No. 8508: 1–31.

O'Kelly, M. E. 2015. Network Hub Structure and Resilience. *Networks and Spatial Economics* 15: 235–251.

Price, D. J. de S. 1976. A General Theory of Bibliometric and Other Cumulative Advantage Processes. *Journal of the American Society for Information Science* 27(5): 292–306.

Rowe, N. 2009. The Hub and Spoke Model of Money. *Worthwhile Canadian Initiative*. <http://worthwhile.typepad.com>.

Salter, A. W. and Luther, W. J. 2014. Synthesizing State and Spontaneous Order Theories of Money. In: *Entangled Political Economy*. Bingley: Emerald Group Publishing Limited.

Selgin, G. A. 2011 [1988]. *The Theory of Free Banking: Money Supply under Competitive Note Issue*. Indianapolis: Liberty Fund.

\_\_\_\_\_. 1994. On Ensuring the Acceptability of a New Fiat Money. *Journal of Money, Credit, and Banking* 26(4): 808–26.

\_\_\_\_\_. 2002. Adaptive Learning and the Transition to Fiat Money. *The Economic Journal*, 113(484): 147–165.

Simon, H. A. 1955. On a Class of Skew Distribution Functions. *Biometrika* 42(3/4): 425–440.

Simons, H. C. 1936. Rules versus Authorities in Monetary Policy. *Journal of Political Economy* 44(1): 1–30.

Sumner, S. 2012. The Case for Nominal GDP Targeting. *Mercatus Research, Mercatus Center at George Mason University*: 1–24.

Wagner, R. E. 2020. *Macroeconomics as Systems Theory*. New York: Springer.

White, L. H. 1984. Competitive Payments Systems and the Unit of Account. *The American Economic Review* 74(4): 699–712.

\_\_\_\_\_. 2002. Does a Superior Monetary Standard Spontaneously Emerge? *Journal des Economistes et des Etudes Humaines* 12(2): 269–281.

Williams, R. J. and Martinez, N. D. 2000. Simple Rules Yield Complex Food Webs. *Nature* 404: 180–183.

Woodford M. 2003. *Interest and Prices: Foundations of a Theory of Monetary Policy*. Princeton: Princeton University Press.

Wright, R. 1995. Search, Evolution, and Money. *Journal of Economic Dynamics and Control* 19(1–2): 181–206.

Yeager, L. B. 1956. A Cash-Balance Interpretation of Depression. In: Selgin, G. (Ed.) 1997. *The Fluttering Veil: Essays on Monetary Disequilibrium*, pp. 3–18. Indianapolis: Liberty Fund.

# Carl Menger on Theory and History

CHRISTIAN ROBITAILLE

University of Ottawa

**Abstract:** The distinction between the theoretical and the historical social sciences is one of the most important aspects of the Austrian School of economics' epistemological framework. Ludwig von Mises, one of the main representatives of this school of thought, even wrote an entire book on epistemology and methodology titled *Theory and History*. This distinction, however, was introduced many decades earlier by the very founder of the Austrian School, Carl Menger. If the epistemological implications of this distinction permeate all of his work, his *Investigations Into the Method of the Social Sciences with Special Reference to Economics* emphasized more explicitly on the proper tasks of theoretical and historical economics in the elucidation of social phenomena. In brief, because historical data are complex and individualized, the resolution of social enigmas requires that we *organize* these data using *theory*. Theory consists of the set of all elements that are *general* in the phenomena of interest, thus allowing us to classify historical events into types. It is through theory, according to Menger, that we can make sense of history. The following paper seeks to provide an analysis of this fundamental epistemological distinction. It will thus be divided in two distinct but interrelated sections (other than the introduction and conclusion). The first section of this paper will indicate some of the philosophical influences behind Menger's distinction between theory and history. It will in particular insist on his Aristotelian causal-realist perspective. It will also analyze in further details what Menger said about this distinction and about its epistemological implications in his *Investigations*. As will be seen, these implications are precisely what distinguished Menger's thought from the German Historical School he vigorously opposed during the *Methodenstreit*. The second section will analyze how Menger's distinction between theory and history has been understood by later Austrian economists in order to better highlight the influence of this distinction in the future development of Austrian Economics. In particular, a comparison between the Weberian interpretation, popular in many Austrian circles, and Ludwig von Mises's will be presented.

**Keywords:** Carl Menger, Theory and History, Austrian Economics, History of Thought

**JEL classification:** B13, B53, Y80

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## I. INTRODUCTION

Carl Menger (1840-1921) is mostly known as one of the co-initiators of what is called the “marginal revolution” in economics. Simultaneously with William Stanley Jevons and Léon Walras, he developed the principle of marginal utility. But, as Jaffé (1976, pp. 518-519) pointed out in his famous article de-homogenizing these three “revolutionaries,” Menger’s thought is more singular than what one would believe were one to merely rely on the usual accounts of the marginal revolution.

Menger’s work is indeed characterized by a desire to study the social world as it is rather than by a desire to study approximations of it through ideal models as Jevons and Walras, among others, have intended to do. To study the social world as it is, Menger is fully aware that one must turn one’s attention to history because the data of the social world are constituted of historical events. But the data of history are complex; they first present themselves to our minds in their full singularity and cannot, as such, be properly understood through direct observation or experimentation. These data must be *interpreted* by the mind of actors. This must be done for various reasons. An actor may want to understand a historical social phenomenon to advance a political agenda, to connect this social phenomenon with another one or to subsume it under a more general set of social phenomena, to normatively evaluate it, and so forth. For actors who act as social scientists and who wish, as such, to understand historical social phenomena, the two main questions to ask are: *what type* of knowledge can we acquire when we conduct our investigations of social phenomena and *how* can we acquire such knowledge? This is the type of questions that Menger and many thinkers belonging to the Austrian School of economics have attempted to answer by insisting on the importance of distinguishing between theoretical and historical knowledge. Although theory and history complement each other in our explanation of social phenomena, they must be analytically separated in order for us to understand what it is that we are doing as social scientists and, as a consequence, to understand the scope of our investigations and the type of knowledge we are thus obtaining.<sup>1</sup> The aim of this paper is to see what Menger had to say about this distinction which he initiated in explicit terms in his *Investigations* and how this distinction impacted later Austrian economists.<sup>2</sup> A special emphasis will be given to the impact of this distinction on Ludwig von Mises’s work who, perhaps more than any other Austrian, insisted on its capital importance by dedicating an entire book to it.

## II. THEORY AND HISTORY IN MENGER’S INVESTIGATIONS

Before addressing Menger’s distinction itself, I wish to briefly discuss his philosophical influences which, I hope, will help the reader to contextualize and understand the origins of this important distinction between theory and history. Carl Menger was an avid reader, as is shown by the multitude of annotations that were found in the books composing his voluminous library (Campagnolo 2010, pp. 215-216, 226-227). It has thus been difficult for scholars to point out all the possible influences that Menger had, especially since his work does not only contribute to the development of economic analysis as such, but also to its philosophical foundations and to the philosophical foundations of the social sciences in general. There is little doubt, however, that the main philosophical influence on Carl Menger’s epistemology and methodology was Aristotle.<sup>3</sup> Other than the numerous citations appearing throughout the *Principles of Economics* (Menger 2004 [1871]) and the *Investigations*, a clear indication of this influence is the presence of many annotations in his own copies of Aristotle’s *Nicomachean Ethics* (Campagnolo 2010, p. 221) and *Politics* (Campagnolo 2010, pp. 241-243). A closer look at the content of Menger’s philosophical discussions, especially in his *Investigations*, also shows quite clearly the impact that the Greek philosopher had on Menger’s thought. As was indicated by Smith (1990, p. 266), the idea that things contain *essences* which can be understood by the human mind as *necessary* and the idea that the connection between these things can also be thought as universal so long as this connection is an essential feature of their existence (a part of their nature), constitute the main Aristotelian ideas behind Menger’s epistemology regarding the study of political economy. For, as will be shown later, what he called the “exact orientation” of theoretical research is precisely guided by the idea

that we can grasp the necessary connections between the essences of economic phenomena as well as their general nature (Smith 1990, p. 266). Moreover, as was again pointed out by Smith (1990, p. 267), historical data are considered by Menger as being characterized by both *specific* or, to use Aristotle's terminology, "accidental" features (what we will see constitute the realm of historical studies) *and* general ("essential") features (the realm of theoretical studies). Menger indicated that it is only by studying the essential features of economic phenomena (through theory) that economists can discover laws of social development; it cannot be done through an exhaustive description of their accidental features. This epistemology and methodology are decidedly Aristotelian, albeit with a few minor differences (Alter 2018 [1990], pp. 117-119). In this perspective, the best way to characterize Menger's adaptation of Aristotelian methodology would be "causal realism" (Campagnolo 2010, p. 245; Salerno 2010, pp. 2-3): *Realism* because Menger sought to study the essences of economic phenomena as they really are, that is, as rooted in the fundamental aspects characterizing the nature of individual actions; and *causal* because Menger deduced from the essence of economic phenomena the laws of their connection and development (what necessarily follows from the general nature of their existence).

Other than Aristotle's influence, one can also note the influence of philosophers of the Scottish Enlightenment and of British political economists, including David Hume, Adam Smith, and John Stuart Mill (Campagnolo 2010, pp. 255-264). Menger (2013 [1891], p. 112) even indicated that he considered John Stuart Mill to be the thinker who improved classical economics the most. However, with respect to method (and especially that of Bacon, Hume, and their followers), he regarded their version of empiricism as unacceptable as it fails to provide us with true *general* knowledge about the social world. There is also evidence, from a few footnotes and discussions in the *Principles*, for assuming at least some influence from French economists and philosophers like Turgot or Condillac (Menger 2004 [1871], pp. 82, 260, 295-297, 306, 310). It is of particular interest to this study to note that Condillac's method for economic analysis (the deductive method from well established facts) differed from that of the Scottish Enlightenment and had a considerable impact among French social theorists from the *Idéologues* (Cabanis, Tracy, Say) to the liberal *Industrialistes* (Charles Comte, Dunoyer) and the liberal economists of the *Journal des économistes* (Bastiat, Molinari).<sup>4</sup> One could then speculate, based on their similarities, that Condillac had an influence on Menger's work not only with regards to the recognition of subjective valuations or to economic analysis as such, but also with respect to questions of method. Campagnolo (2010, pp. 263-264), for instance, noted that Menger's copies of Condillac's work showed "that he read them with interest."

These influences notwithstanding, as well as that of many others which cannot all be discussed here, Menger's originality rests on his adaptation of these philosophical and economic insights in the formulation of what he considered to be the ultimate foundations for the proper conduct of studies in the social sciences.

It is well known that Menger's *Investigations* aimed at providing a methodological alternative to the historicism of the then-popular German Historical School as a part of what has since been known as the *Methodenstreit* (dispute on method).<sup>5</sup> This special interest for the question of method was triggered by the fact that the German Historical School's followers by and large denied the validity of the deductive or the abstract method that permeates Menger's *Principles* (Hayek 1934, pp. 404-406) and which characterized to a large extent the development of political economy in France (with Condillac, Tracy, Say, and so forth). Indeed, the Historical School's arguments against the deductive method were considered unacceptable to Menger. More importantly, the alternative presented by the historicists for the study of political economy—in particular the idea that only historical investigations can provide us with any knowledge of the real world—was considered by the Austrian economist to be inadequate to allow us to make any sense of the social world. The deductive method had to be defended. Menger's incursion into methodological debates was therefore not triggered by any interest in methodology *per se* (although he obviously *was* interested in it); rather, he participated in these debates because he deemed them to be *necessary* to the correct development of the discipline of political economy. Indeed, Menger (1985 [1883], p. 27) wrote that methodologists "have not infrequently proved to be extremely barren scholars in the field of those sciences whose methods they

could expound with imposing clarity.” This would suggest that Menger would have preferred to apply science to concrete problems rather than to merely discuss its proper methods. Nevertheless, Menger indicated that it is necessary to discuss methodological problems when:

[...] the progress of a science is blocked because erroneous methodological principles prevail. In this case, to be sure, clarification of methodological problems is the condition of any further progress, and with this the time has come when even those are obligated to enter the quarrel about methods who otherwise would have preferred to apply their powers to the solution of the distinctive problems of their science (Menger 1985 [1883], p. 27).

This is precisely the reason why Menger decided to participate in these methodological debates, which ultimately proved to be no easy challenge (Menger 2013 [1891], p. 107). The main reason that the progress of the science of political economy was blocked was what Menger (2020 [1884], pp. 463, 471) called the historicists’ “one-sidedness”. More specifically, it was the prevalence of the view of political economy as a mere form of history that was deemed unacceptable by the founder of the Austrian School. After Gustav von Schmoller’s response to his criticism, Menger (2020 [1884], p. 469) even went so far as to insist on the importance “to expose the disfigurations of the results of our scientific investigations, rather than to silently tolerate them.” For Menger clearly saw the discipline of political economy as being capable of formulating social laws, and this presupposes that we can identify constancies that are not the mere result of contingency. In other words, without claiming that history is unimportant, Menger insisted that economic history *could not* be studied without a proper understanding of economic *theory*. And economic theory, because of its general character, cannot be derived merely from the direct observation of historical data. This idea seemed counterintuitive to historicists and positivists. In fact, as Campagnolo and Lordon (2011, p. 58) argued, Menger’s ambition was to operate a similar “Copernican revolution” in economics to what had been done by Kant in more general terms in the field of epistemology. That is, he wanted to show that the perceptual data of economic history must be framed by economic theory rather than economic theory being derived from the percepts of history. Admittedly, Menger was more of an Aristotelian than a Kantian (Smith 1990; Alter 2008 [1990], pp. 81-82). His distinction between theory and history is indeed not based on a transcendental argument about the conditions of possibility of the perception of economic phenomena by our mind; it is rather based, as we have seen, on the characterization of economic theory as a description of the essential nature of economic phenomena *as such* (Menger 1985 [1883], p. 37; Bostaph 1978, p. 12). But it nevertheless clarifies his distinction between theory and history to use this analogy.<sup>6</sup> Moreover, these two arguments for grounding this distinction—Aristotelian and Kantian—, it should be noted, are not necessarily mutually exclusive (Rothbard 1957, p. 318). It is indeed perhaps precisely *because* of the nature of economic action that we cannot conceive of economic phenomena as being possible without these economic laws being true. In other words, economic laws may condition the possibility of the understanding of economic phenomena because they are part of their nature. This argument is especially strong when considering that economic phenomena are composed of both internal (thinking) and external (behaving) processes; if the laws governing these processes constitute our nature as economic actors, then of course we cannot conceive of economic action as possible without our minds accepting these laws as being necessarily correct (see Hoppe 1995). This is what Menger seems to indicate when he writes that the exact orientation of theoretical research is based on “rules of cognition” that “[...] arrive at laws of phenomena which are not only absolute, but according to our laws of thinking simply cannot be thought of in any other way but as absolute. That is, it arrives at exact laws, the so-called ‘laws of nature’ of phenomena” (Menger 1985 [1883], p. 61). In fact, the data of economic history remain simply unanalyzed until the human mind distinguishes their essence from their accidental features.

Indeed, the general goal of theoretical research, to Menger, is to “ascertain the *simplest elements* of everything real” (Menger 1985 [1883], p. 60). It seeks “to trace the real phenomena of the economy back to their most simple and strictly typical elements [...]” (Menger 2020 [1884], p. 473). This knowledge con-

stitutes necessary knowledge because it expresses general links between what are *essential* elements of the phenomena (Menger 1985 [1883], p. 60). As such, and because we are looking at what is general in social phenomena, given the same conditions and the same causes, the same effects must always occur (because it is in the very nature of these phenomena that they occur). In this perspective, Smith (1990, p. 279) usefully frames Menger's economic theory as an "ontological grammar of economic reality". The elucidation of historical enigmas must be made through the subsumption of their specific occurrences under a more general category by reasoning and thought. Menger (1985 [1883], p. 45) writes indeed that "we become aware of the basis of the existence and the peculiarity of the nature of a concrete phenomenon by learning to recognize in it merely the exemplification of a conformity-to-law of phenomena in general." As such, theory, by allowing us to recognize what is general in the concrete historical phenomenon of interest, indicates to us the nature of the phenomenon and of its structure. It allows us, as it were, to separate the signal from the noise within the historical data. And this is precisely what was at the heart of the contention of the *Methodenstreit*. That is, Menger rejected the German historicists' method (and more particularly that of the "younger" generation, under the lead of Schmoller) as either confusing theory and history or as ignoring the importance of theory in the understanding of economic phenomena in their generality (Menger 1985 [1883], pp. 41-42). Menger (2020 [1884], p. 470) considered this distinction between theoretical and historical research as one of the most important elements of his work.<sup>7</sup>

But within this distinction, there exists a further important distinction. Not only is there a difference between theoretical and historical research, but there are also different *types* of theoretical or historical research. This leads Menger to distinguish between what he calls the "realistic-empirical" orientation of theoretical research and the "exact" orientation. On the one hand, empirical regularities that can be observed with exceptions are categorized as empirical laws. We will briefly come back to this "realistic-empirical" orientation of theory later. On the other hand, those categories of phenomena related to economic action without which economic action would be unanalyzable, under given conditions, are classified as "exact" laws. They are exact because economic action could not exist, or be conceived of, without them when the given conditions are realized. These "given conditions" are what needs to be met in the historical context under investigation for the laws to apply. For instance, when Menger (1985 [1883], p. 71) discusses the example of the law of demand, he indicates that:

Those presuppositions which automatically result from any orderly presentation of theoretical economics are: (1) that all the economic subjects considered here strive to protect their economic interest fully; (2) that in the price struggle they are not in error about the economic goal to be pursued nor about the pertinent measures for reaching it; (3) that the economic situation, as far as it is of influence on price formation, is not unknown to them; (4) that no external force impairing their economic freedom [...] is exerted on them.

According to Menger, then, exact laws of economic theory are conditioned by the concrete realization of quite restrictive elements (Menger 1985 [1883], p. 72). They nevertheless increase our knowledge by indicating to us what happens for sure given certain conditions. They also increase our knowledge, perhaps in a more useful way, by reminding us of the necessity that at least one of these conditions is *not* met when we observe empirical patterns that do not perfectly conform to the laws of economics. In other words, it can orient the researcher's attention to what condition was missing and allow the exploration of research hypotheses that are restricted by our knowledge of the exact laws of action. For instance, if an increase in the price of a good is not accompanied by a decrease in the quantity demanded for that good, one *knows* that one of the conditions for this exact law to be realized was not met, and one can seek to look at whether some "external force" impaired the actors' "economic freedom" or if the actors did not "strive to protect their economic interest fully," and so forth. Exact theory thus renders explicit the conditions under which some effects necessarily occur after a certain cause has occurred.

This illustrates quite well why theory is the study of what is “general” in social phenomena. By abstracting from the complexity of singular historical events those elements which are necessarily true given the realization of some conditions, we gain knowledge that can be useful for the study of other, more specific, phenomena. The essences of economic phenomena and the logical deductions from these essences always apply when the conditions are met. This insight was the most important matter of contention that characterized the *Methodenstreit* and distinguished Menger’s deductive reasoning from historicism (Krabbe 1988, p. 58).

Another way to understand the distinction between theory and history is through Menger’s distinction between the “organic” origin and the “pragmatic” origin of institutions. This example will perhaps help the reader to better understand the scope of Menger’s epistemological framework. Although all social phenomena are the result of individual actions, there are two distinct ways by which these actions determine those phenomena. They can either be the result of intended consequences to successful actions or, as has now become a famous Hayekian catchphrase, unintended consequences to human actions. Yagi (2000, p. 88) discussed in many details the “organic” origin of institutions as opposed to the “pragmatic” origin presented by Menger. In brief, institutions cannot merely be explained in terms of well thought plans that succeeded. Indeed, *some* institutions are the side effects of particular plans or even the result of the failure of these particular plans. Failure (of specific plans) here must not be understood as something with a necessarily negative connotation. I can for instance fail at reaching my specific goal of having dinner at my favorite restaurant because it is unexpectedly closed, but then try a new restaurant which I discover is even better (thus successfully reaching my general plan of enjoying a good meal). Likewise, some institutional frameworks, although not initially the result of any conscious planning, are nonetheless beneficial to the achievement of our goals or can help us discover new intermediary goals which allow us to better achieve the general goal of human action of maximizing happiness (broadly understood).<sup>8</sup>

One must however be careful here to not exaggerate the scope of this “organic” view of social development. First, according to Menger, many actions *are* successful, and many plans *are* resulting in the intended consequences thought by the actors *ex ante*. Moreover, with respect to those accidental consequences of action that are beneficial, it is precisely because most of us end up realizing that they *do* in fact allow us to achieve our various goals more successfully that we make an effort to maintain them. Thus, the doctrine of organicism, considered as the idea that all social development has been guided by obscure forces that unconsciously drove us to behave in such a way as to determine this development, was vehemently denounced as utter nonsense by Menger. In this perspective, he wrote:

The previous attempts to interpret the changes of social phenomena as “organic processes” are no less inadmissible than the above theories which aim to solve “organically” the problem of the origin of unintentionally created social structures. There is hardly need to remark that the changes of social phenomena cannot be interpreted in a social-pragmatic way, insofar as they are not the intended result of the agreement of members of society or of positive legislation, but are the unintended product of social development. But it is just as obvious that not even the slightest insight into the nature and the laws of the movement of social phenomena can be gained either by the mere allusion to the “organic” or the “primeval” character of the processes under discussion, nor even by mere analogies between these and the transformations to be observed in natural organisms. The worthlessness of the above orientation of research is so clear that we do not care to add anything to what we have already said (Menger 1985 [1883], p. 150).

It is therefore insufficient to talk about the “organic” origins of—or the changes in—the “unintended” social structures. These are the starting point of social analysis—the *explanandum*—not its end point—the *explanans*. They are the historical data which need to be organized by theory. We need to gain a deeper understanding of actions—the intended, planned, self-interested behaviours—to reconstruct the “unintended product of social development.” For, on the one hand, unintended consequences are still the consequences

of actions and one must thus seek to understand the initial intention guiding the action leading to unintended consequences to understand the final result. And, on the other hand, when these unintended consequences are constituted of—or lead to the development of—particular institutions, one must seek to understand why those institutions are maintained or changed based on how the actors find them useful to the achievement of their particular plans. Indeed, Menger (2020 [1884], p. 485) writes: “The complicated phenomena of the economy are predominantly the result of the contact of individual economic endeavors, so that the understanding of these and their interrelationships is a necessary condition for understanding the complicated phenomena of the economy.” It is therefore insufficient to merely talk about the organic origins of an institution. Menger provides the example of the emergence of law. It is impossible to gather all the empirical information necessary to historically reconstruct its origins and developments. Thus:

There can be only one way to reach the theoretical understanding of that “organic” process to which law owes its first origin. That is to examine what tendencies of general human nature and what external conditions are apt to lead to the phenomenon common to all nations which we call law. We must examine how law was able to arise from these general tendencies and conditions and according to the measure of their difference to come to understand its particular empirical forms (Menger 1985 [1883], p. 224).

In other words, even in those cases in which we study the “organic” evolution of institutions, one needs to take into consideration the nature of action and its probable historical specifications in order to make sense of it. It is indeed not adding much to our knowledge to indicate that an institution evolved “organically”. One must still investigate how it came about and why actors invest in its perpetuation in order to understand its emergence and stability, thus showing how so-called “atomistic” and “organic” approaches are not mutually exclusive (Krabbe 1988, p. 58), as the former seeks to explain what the latter describes. And in the absence of complete historical data, this is even more important. One is left with attempting to resolve this enigma by investigating the nature of human action (with theory) and to reconstruct plausibly the historical chain leading to the evolution of a particular institution (see Menger 1985 [1883], p. 159). As we can see clearly now, theory and history must complement each other in the provision of a real or plausible description of social evolution. It is obvious that we have to study the essence of action to understand institutions (or any other social phenomenon) that are the result of conscious planning. But what Menger indicated above is that even when they are *not*, they are still the result of action and economists must theorize (investigate the nature of action) to make sense of their origins and perpetuation.

Before taking a look at how the distinction evolved in the writings of Ludwig von Mises and of other Austrians, let us briefly address the second type of theoretical research indicated above, i.e., the “realistic-empirical” orientation of theoretical research (see Louzek 2011, pp. 445-448). Indeed, there are various degrees of generality in economic phenomena. The “exact” orientation of theory only deals with the most general aspects of economic life whereas the “realistic-empirical” orientation deals with empirical patterns that can present themselves with exceptions. This distinction slightly complicates the theory-history divide. Indeed, the realistic-empirical orientation of theory requires the use of historical observations so that we can indicate what empirical patterns exist. The empirical conditions of a time and place will have an impact on the orientation of action. Although empirical conditions are by necessity not transhistorical, they can repeat themselves in similar ways throughout history and it is therefore possible, for instance, to discover general patterns of behavior related to money given that money takes a particular form (Menger 1985 [1883], pp. 103-104). This “realistic” orientation of theory is also considered as an essential part of social investigations by Menger ([1985 [1883], p. 64]).

To sum up, “exact theory” constitutes the most general and transhistorical aspects of social phenomena. They are, under clearly stated conditions, always true. “Realistic-empirical” theory, on the other hand, is based on the recognition of patterns that regularly repeat under the same conditions, but which allow for

unexplained exceptions. Finally, history is the description of the social phenomena in their complexity and singularity. As we can see, to Menger, theory is what allows us to *explain or understand* what history *describes*.

### III. THEORY AND HISTORY AS THE AUSTRIAN SCHOOL'S EPISTEMOLOGICAL FRAMEWORK

The singular understanding of this distinction and complementarity between theory and history, as exemplified above, is perhaps what characterizes the most the epistemological point of view of many thinkers of the Austrian School. In particular, Ludwig von Mises reaffirmed the importance of the distinction in all of his books dealing with epistemology and method. The spirit of Menger is indeed present in all of Mises's writings.

However, there is one interpretation (or rather, modification) of Menger's idea of theoretical research, the Weberian interpretation, that was deemed excessive by Mises.<sup>9</sup> For Mises, exact laws do not correspond to ideal types in the Weberian sense. It is true, on the one hand, that Menger's characterization of the exact orientation of theoretical research is often described in a very similar way to what Weber will himself later define as the ideal type (e.g. Menger 2020 [1884], pp. 479-480). There is no doubt that the German sociologist was influenced by the Austrian economist. To be sure, Weber was critical of Menger's claim that the types of exact theory can be seen as the result of discovering the "essence" of social phenomena (see Camic et al. 2005, p. 18); but he nevertheless agreed that history must be organized with the help of theoretical tools of less specificity than strict historical description. In a way, he re-interpreted Menger's types as mental constructs that are useful for understanding historical data (rather than as descriptions of the real essence of the phenomena). This indicates that, although he never fully adhered to Menger's epistemological prescriptions, Weber was influenced by him and by other members of the Austrian school (see Yagi 1997; 2011, p. 60). In fact, he saw his own work as an extension and modification of Menger's (Yagi 1997, p. 257).<sup>10</sup> For instance, Weber conceived of economic theory in Menger's sense as a particular set of ideal types describing actors that are merely conditioned by instrumental rationality and the pursuit of material self-interest. He sought to build other ideal types conditioned by other types of rationality (including actions axiologically oriented, traditionally oriented or non-rationally oriented) and the pursuit of other goals than material self-interest (see in particular Weber's typology of action in Weber 1978 [1922], pp. 24-25).<sup>11</sup> In other words, Weber interpreted Menger's contribution as the development of ideal types that are characterized by the conception of actors acting under the influence of *some* psychological assumptions and saw his own contribution as the creation of *other* ideal types characterized by the conception of actors acting under the influence of *other* psychological assumptions. It follows that the laws of economics, in this Weberian sense (which is differing from Menger's here), are laws that apply when we exaggerate some human traits and are, therefore, never *fully* realized in the real world as they are creations of the mind (no real person is *always* acting according to only one accentuated human trait). They are simply useful tools in order for the social scientist to compare how close or far concrete social phenomena are from these ideal results, thus allowing us to see the extent to which the assumptions contained in the ideal type are present in a concrete social phenomenon of interest.

On the other hand, Mises (1998 [1949], pp. 16, 485, 530, 560, 642) pointed out that the exact laws of economics cannot be conceived as actions based on exaggerated psychological assumptions. The following discussion on the contrast between the Weberian modification of Menger's distinction and Mises's reformulation of it will be useful to understand the evolution of this epistemological framework within Austrian economics.

To Mises (2007 [1957], pp. 315-320), Weberian ideal types do not allow for the formulation of exact laws since they correspond to the isolation of some ideal features characterizing historical phenomena and which are then analyzed on their own in order to seek a better understanding of these historical phenomena (by comparing how close or far from these types reality is). As such, to Mises, ideal types are tools for historical

and thymological research, not for theoretical research.<sup>12</sup> Mises's understanding of theoretical research is, in this respect, different: it corresponds to all the *a priori* laws which we can discover by inquiring on what it is to act (Mises 1962, pp. 44-46). Theory is therefore a set of principles which conditions the possibility of action and which, therefore, *must* be transhistorical (Mises 1962, p. 42). They are transhistorical precisely because they condition the possibility of our understanding of history; a researcher analyzing past actions to historically reconstruct social phenomena is also an actor and must therefore, to accomplish his action successfully, use the categories and laws of action to make sense of the historical enigma he wishes to elucidate.<sup>13</sup> This Kantian grounding of theoretical research is mostly terminological; transcendental arguments existed before Kant and the idea of necessary *a priori* knowledge was present at least since Parmenides' poem, Plato's dialogues, and Aristotle's work (Grondin 1989, pp. 13, 23). But this terminology is certainly helpful to ground the distinction between theory and history developed by Menger and re-evaluated by Mises, as it makes clear that theory is what makes the knowledge of history possible, thus highlighting the importance of the clarification of economic theory for the resolution of any empirical economic inquiry. In order not to confuse (or dilute) Menger's distinction with Weber's sociological method—a confusion which can even, at times, be supported by Menger's own writing (Yagi 2011, p. 53)—Mises has attempted to reformulate it in stronger terms.

We have seen earlier that Menger grounds his “exact” orientation of theoretical inquiries on psychological assumptions and other conditions (see above). If these assumptions are not met in reality, then the laws do not apply. In this regard, Mises (2013, p. 141) sees Menger as being “too much under the sway of John Stuart Mill’s empiricism to carry his own point of view to its full logical consequences.” Menger failed, in Mises’s view, to ground economic theory to the full extent that he could with his very own distinction between theory and history.<sup>14</sup> With Mises comes indeed a stricter connection between theory and universality through an ultimate justification for it.

To Mises, praxeology, the logic of action itself, has different degrees of generality. True enough, the laws of action in the presence of money, for instance, will only be applicable when one studies a society in which money does exist. However, there are basic laws of praxeology which we must conceive as completely transhistorical (and therefore non-hypothetical). One will always choose the available means that one expects will be best suited to achieve one's goals. Such basic propositions about action are transhistorical because we cannot avoid our nature of actors and must thus interpret any historical event (which *must* be conceived, ultimately, as the result of action) in these terms. No psychological assumption is required here (Mises 2003 [1933], p. 180). Whether one sacrifices one's life for what one considers to be the greater good or one chooses a job based on what will allow one to obtain as much money as possible, one is always *acting*. And the structure of action is always the same. It is clear that, to Mises, this recognition is a strengthening of Menger's distinction. For some propositions become apodictically true and are therefore immune from any empirical refutation (as this very refutation would presuppose their validity in its performance).<sup>15</sup> One cannot even point out, for instance, that this or that psychological assumption is not met, as the most general laws of action do not require any psychological assumption to be true.

But, of course, this stronger distinction is only applicable in very broad terms, i.e., when one discusses the nature of action *as such*. It can be useful for social scientists mostly in order to *exclude* potential explanations of specific social phenomena. The addition of empirical assumptions becomes of course necessary if one wants to provide a specific explanation to those specific social phenomena. In this last perspective, Mises's distinction remains by and large the same as Menger's, albeit using a different, Kantian, terminology.<sup>16</sup> Yet, the empirical assumptions brought here are distinct from the psychologically restrictive ones formulated by Menger. They are also quite distinct from Weber's exaggerations of aspects of reality. The idea is that there are degrees of generality in the study of action.

First, there is the study of action as such; this is simply the study of its conditions of possibility (or of its *essence* if we wish to keep the Aristotelian terminology). Second, there is the study of action under general, well-defined, empirical conditions and social contexts (Mises 1998 [1949], p. 238). Third, there is the study of the specific motivational triggers of action and of the specific description of their modalities and effects

(thymology, statistics, history). The first set of studies, since it provides us with the conditions of possibility to the performance of any action, and since any historical phenomenon can only be understood in terms of human actions, is composed of completely transhistorical laws and categories. The second set of studies provides conditional laws, i.e., laws that are absolutely true in any historical context in which the empirical conditions postulated are realized (e.g., the barter economy, the money economy, and so forth). The third set of studies is either strictly descriptive or more approximative and based on plausible (“thymological”) knowledge of specific historical understanding; it requires not only the observation of certain broad empirical features in society (such as the existence of money), but also an understanding of psychological and sociological features characterizing the context in which the phenomena of interest occurred (and hence, something like Weberian ideal types can play a role here). We can see that this is slightly distinct from Menger’s work, which stipulated that exact theory is always true but only applicable *when* restrictive psychological and contextual elements are realized. With Mises, we have three sets of propositions. The first set of basic propositions is always true and always applicable as long as action is involved (the conditions of possibility of action as such). The second set of propositions is more similar to Menger’s idea of exact theory but does not speculate about psychological assumptions (they rather constitute the conditions of possibility of action under given, real, empirical conditions, and not under conditions about what type of ends the actors chose and why). The third set is the study of historical human actions (the specific motivational triggers to specific actions and the specific features of specific events).

In any case, it is clear that Mises saw Menger’s distinction between theory and history as one of the most fundamental aspect of social epistemology. His modification of it is without any doubt rooted in a desire to extend its potential rather than to contradict the founder of the Austrian School. The citation provided above by Mises on how the founder of the Austrian School did not recognize the full scope of his own epistemological framework is supportive of this interpretation of Mises’s endeavour. Weber’s modification of the meaning of theoretical research to include ideal types is thus erroneous. Economic theory is not a set of useful ideal tools facilitating historical understanding; rather, it is a set of real conditions to our understanding of any historical action.

More recent Austrians have adopted Mises’s meaning of the distinction. For instance, two of his most prominent American students, Murray Rothbard and Israel Kirzner, have integrated it in their own work. In continuity with Mises, Rothbard, while criticizing the Kantian terminology used by Mises and re-formulating it in Aristotelian terms, has also explained that the *theory of action* (praxeology) is necessary to make sense of historical data and that no psychological assumption is required for guaranteeing its truth (except that of the existence of subjective consciousness) (Rothbard 1997). Likewise, Kirzner indicated that we can only explain social phenomena “by subjecting the observed data to a specific scientific procedure, praxeological reasoning. This procedure is in itself quite independent of the facts to which it is applied. [...] It is itself the contribution of human logic and reasoning alone” (Kirzner 1976, p. 180). He adds that “pure reason can convey knowledge concerning brute facts of the real world” (ibid., p. 181). Hence, Kirzner also seems to adopt in his work Mises’s version of the theory-history distinction.

But there are of course also disagreements with Mises about his version of the distinction between theory and history among Austrian economists (or at least about the understanding of his system that I presented above). Lachmann (1951, p. 413), for instance, has interpreted Mises’s program as an extension of the work of Max Weber; Lavoie (1986), Lachmann (1990, p. 138), and Lavoie and Storr (2011) have all argued that Mises’s version of the distinction between theory and history must be reinterpreted in a more “interpretive” manner to be useful to the study of the social sciences, thus blurring the “theory-history” distinction and allowing for some forms of history to be considered as theory and vice versa. Some authors have even erroneously identified Mises’s praxeology to Weberian sociology (Zafirovski 2010) in order to argue that theory corresponds to the formulation of ideal types.<sup>17</sup>

Nevertheless, the distinction between theory and history remains one of the most important features of the Austrian School. Austrians have explicitly discussed this topic and debated the modalities of the distinction. It is mainly useful to understand what social scientist are doing when they conduct research. This

was also adopted by economists such as Schumpeter who, for instance, often commented on the work of other economists by distinguishing “pure theory” as exact theory from other types of economic theory allowing exceptions (what Menger called the “realistic-empirical” orientation of theory). He thought, however, that the debate surrounding the *Methodenstreit* seems “pointless” as it is obvious to him that both theory and history are necessary to study economics (Schumpeter [1954] 1986, p. 782). But the fact that few would deny this does not mean that there are no fundamental misunderstandings on the role and nature of both in the elucidation of social phenomena. It is the merit of the Austrians to have explicitly reflected on and debated about the meaning and scope of the theory-history distinction. In any case, whether theory is understood as a set of fallible tools of interpretation, as a set of conditional laws, or as a set of *a priori* true and transhistorical statements about all phenomena related to action, Menger’s initial epistemological distinction has remained at the center of the Austrian paradigm.

#### IV. CONCLUSION

The singular conception of theory and history initiated by Menger and carried on by Mises and other thinkers of the Austrian School is a fundamental contribution to the epistemology and the methodology of the social sciences. Indeed, questions of method are of utmost importance in order to build a scientific edifice on solid grounds. Valid cumulative knowledge can only be obtained once there is agreement about *what ultimate criteria* one has in order to accept or reject a new addition to the existing body of knowledge. Without understanding what these ultimate criteria are, it is difficult to see how there could be any real progress in the acquisition of knowledge in the social sciences. The consequence is either the existence of various scientific sects, with each one conducting its own studies independently, such as what is the case in the field of sociology, or the construction of a giant with feet of clay.

It is precisely because the experimental method allows researchers in the natural sciences to attain their goals that the natural sciences have been, by and large, so successful in the obtention of valid cumulative knowledge. The very notion of cumulativity presupposes that there are ultimate criteria to determine if an addition to a body of knowledge is valid or not. What many Austrians realized since Menger is that the ultimate criteria to determine whether one has achieved one’s scientific goals are rooted in the nature of action. Even the natural sciences serve the purposes of actors: for example, the technologies that stem from their insights all need to work according to how we intend them to work, and this provides an ultimate criterion for the truth of those insights (see Hoppe 1991). In the social sciences, however, the goal is to gain an understanding of the social world (present or past). Since the social world is a world of actions and motivations, the social scientist must first conceive of what it means to act and to be motivated. Indeed, to understand general questions such as how the purchasing power of money is affected by the money supply or even specific questions such as why Napoléon decided to declare war to Russia in 1812, it is insufficient to gather information about the historical context, for this information does not provide in and of itself an explanation of the phenomenon. Since the first question is by its own nature general, it requires a general investigation of what money is and of how the transactions it allows are affected by an increase or decrease in its quantity. But even in the case of the second question, the historical context in which the enigma occurs must be interpreted in terms of actions and motivations. The specific actions and motivations of historical actors must be subsumed under general categories and laws of action in order for us to make sense of them. According to many thinkers adhering to the Austrian School, these categories and laws, obtained through theoretical research on the nature of action, are the ultimate criteria to determine the validity of historical interpretations.

## NOTES

- 1 Menger also distinguishes a third type of knowledge that is investigated by practical sciences such as policy or finance which is more technological than descriptive or explanatory. See Menger ([1883] 1985, p. 38).
- 2 Although he does not discuss the distinction to the same extent, it does permeate his *Principles*. Menger ([1871] 2004, p. 48) writes, for instance, in the preface that “[...] economic theory is concerned, not with practical rules for economic *activity*, but with the *conditions* under which men engage in provident activity directed to the satisfaction of their needs.”
- 3 For a different point of view, see Crespo (2003).
- 4 He published his economics treatise, *Le commerce et le gouvernement considérés relativement l'un à l'autre* (Condillac 1776), the same year as Adam Smith's, in which he starts by exposing elementary concepts of economic analysis (such as subjective value, see *ibid.*, p. 8) compares fictive economies adopting different policies in order to compare their effects. He also built philosophically, in his famous *Traité des sensations* (Condillac 1754), a Statue that is first senseless by adding one sense at the time in order to deduce how the addition of the senses affects the Statue's interpretation of what it perceives. In spite of his alleged “sensualism,” one can infer from his work a form of methodological rationalism. On this re-evaluation of Condillac's sensualism, see Wojciechowska (1968).
- 5 For an account of the *Methodenstreit* and Menger's intentions within it, see in particular the insightful paper by Bostaph (1978). See also the more recent account of Louzek (2011).
- 6 Although we know Menger studied Kant, there is no clear evidence of any major influence (Kauder 1957, p. 414). There is evidence however, according to Campagnolo (2010, p. 264) that “Menger agreed strongly with the idea that science must be grounded on pure reason.” But Kant's failure to recognize the possibility of discovering such laws in the field of political economy seems to have had an impact on Menger's consideration of the Königsberg philosopher's work (*ibid.*, p. 265).
- 7 On the distinctions between the older and the younger generations in light of Menger's approach, see Alter ([1990] 2018, pp. 60-65).
- 8 However, the reader should note here that the literature on Menger indicates that the two editions of Menger's *Principles* (the second edition was completed posthumously by his son Karl) show changes in his approach to the study of political economy. Becchio (2011, p. 168) indicated, for instance, that at least two understandings of the method of political economy can be found from Menger's work, depending on the edition of the *Principles* one analyzes: the first, “orthodox,” that is rooted in this distinction between theory and history (with theory being derived formally and enjoying a high degree of generality), and the second, “heterodox,” or “substantivist” that is rooted in institutional developments and in the economy's embeddedness within this institutional framework (*ibid.*, pp. 179-182). See also Becchio (2014, pp. 61-62).
- 9 Alfred Schutz (1967, p. 244) attempted to reconcile Weber et Mises by generalizing Weber's concept of the ideal type to include degrees of anonymity. As such, theoretical laws and praxeological categories in the Misesian sense would be seen as transhistorical because they are ideal types with the highest degree of anonymity. There is no clear evidence, however, that Mises ever agreed with Schutz on this matter. His later writings, on the contrary, continue to show that he saw Weber's ideal types as only useful as tools of historical understanding, and not as theoretical concepts constraining our knowledge of action. For an argument that Weber's work constitutes a middle ground between Menger and the German Historicists, see Hennis (1991).
- 10 Weber nevertheless always considered economic theory to consist of tools that are rooted in historical developments and, as a consequence, of economics as a historical discipline (see Yagi 2011, pp. 49, 63-64).
- 11 There is some evidence that Menger himself conceived of economic theory in this way, as was shown earlier in his psychological assumptions (for further evidence, see Hodgson 2001, pp. 82-83)
- 12 Thymology corresponds to the historical study of human motivation. See Mises ([1957] 2007, pp. 271-274; 1961, pp. 47-48)
- 13 For a more detailed discussion of Mises's version of the distinction between theory and history, see Robitaille (2019, pp. 243-250).

14 It is not the only occasion where Mises expressed some criticisms of his masters for not developing their own insight to their full epistemological potential. He writes, after noting that he wanted to deal with economics as a whole rather than specialize in aspects of it: "In economics there can be no specialization. To deal with a part one must do so on the foundation of a theory that comprises all the problems. But I could not use any of the existing comprehensive theories. The systems of Menger and Böhm-Bawerk were no longer wholly satisfactory to me. I was ready to proceed further on the road these old masters had discovered" (Mises 2013, p. 37). One problem identified by Mises was, again, the influence of John Stuart Mill, his empiricism, and the psychological assumptions he imposes on actors as the proper delimitation of the field of economics (Mises 2013, pp. 38, 85-86; Mises [1933] 2003, p. 22 n.27).

15 See the insightful philosophical discussion on transcendental arguments as pragmatic, self-referential arguments presented by Bubner (1981, pp. 388-392).

16 For an interpretation of Mises's praxeology as a realist extension of Kantian epistemology, see Hoppe (1995).

17 On Zafirovski's errors, see Robitaille (2019, pp. 247-248).

## REFERENCES

Alter, M. 2018 [1990]. *Carl Menger and the Origins of Austrian Economics*. London: Routledge.

Becchio, G. 2011. Existe-t-il une « doctrine-Menger » « hétérodoxe »? Sur la lecture et l'interprétation des *Grundsätze der Volkswirtschaftslehre* (seconde version, 1923) par Karl Polanyi. In: Campagnolo, G. (ed.) *Existe-t-il une doctrine Menger? Aux origines de la pensée économique autrichienne*, pp. 167-184. Aix-en-Provence: Presses Universitaires de Provence.

\_\_\_\_\_. 2014. Carl Menger on States as Orders, Not Organizations: Entangled Economy Into a Neo-Mengerian Approach. *Advances in Austrian Economics* 18: 55-66.

Bostaph, S. 1978. The Methodological Debate Between Carl Menger and the German Historicists. *Atlantic Economic Journal* 6: 3-16.

Bubner, R. 1981. L'autoréférence comme structure des arguments transcendants. Masson, J., and Masson, O. (tr.) *Les études philosophiques* 4: 385-397.

Camic, C., Gorski P. S., and Trubek, D. M. 2005. *Max Weber's Economy and Society: A Critical Companion*. Stanford: Stanford University Press.

Campagnolo, G. 2010. *Criticism of Classical Political Economy. Menger, Austrian Economics and the German Historical School*. London and New York: Routledge.

Campagnolo, G. and Lordon, A. 2011. Menger était-il aristotélicien? Nouvelles réflexions sur un débat déjà ancien à l'occasion d'une réponse à Ricardo F. Crespo. In: Campagnolo, G. (ed.) *Existe-t-il une doctrine Menger? Aux Origines de la pensée économique autrichienne*, pp. 45-74. Aix-en-Provence: Publications de l'Université de Provence.

Condillac, É. 1754. *Traité des sensations*. London and Paris: De Bure l'aîné.

\_\_\_\_\_. 1776. *Le commerce et le gouvernement considérés relativement l'un à l'autre. Ouvrage élémentaire*. Amsterdam and Paris: Jombert & Cellot.

Crespo, R. F. 2003. Three Arguments Against Menger's Suggested Aristotelianism. *Journal des économistes et des études humaines* 13(1): 63-84.

Grondin, J. 1989. *Kant et le problème de la philosophie: L'a priori*. Paris: Vrin.

Hayek, F. A. 1934. Carl Menger. *Economica* 1(4): 393-420.

Hennis, W. 1991. The Pitiless 'Sobriety of Judgement': Max Weber Between Carl Menger and Gustav von Schmoller—The Academic Politics of Value Freedom. *History of the Human Sciences* 4(1): 27-59.

Hodgson, G. M. 2001. Out of Austria: Carl Menger and the *Methodenstreit*. In: Hodgson, G. M. *How Economics Forgot History. The Problem of Historical Specificity in Social Science*. London: Routledge.

Hoppe, H.-H. 1991. Austrian Rationalism in the Age of the Decline of Positivism. *Journal des économistes et des études humaines* 2/3:243-267.

\_\_\_\_\_. 1995. *Economic Science and the Austrian Method*. Auburn: Ludwig von Mises Institute.

Jaffé, W. 1976. Menger, Jevons and Walras De-Homogenized. *Economic Inquiry* 14: 511-524.

Kauder, E. 1957. Intellectual and Political Roots in the Older Austrian School. *Zeitschrift für Nationalökonomie* 17(4): 411-425.

Kirzner, I. M. 1976. *The Economic Point of View: An Essay in the History of Economic Thought*. Kansas City: Sheed and Ward, Inc.

Lachmann, L. M. 1951. The Science of Human Action. *Economica* 18(72): 412-427.

\_\_\_\_\_. 1990. Austrian Economics: A Hermeneutic Approach. In: Lavoie, D. (ed.) *Economics and Hermeneutics*, pp. 132-144. London and New York: Routledge.

Lavoie, D. 1986. Euclideanism versus Hermeneutics: A Reinterpretation of Misesian Apriorism. In: Kirzner, I. M. (ed.) *Subjectivism, Intelligibility and Economic Understanding. Essays in Honor of Ludwig M. Lachmann on his Eightieth Birthday*, pp. 192-210. London: Macmillan.

Lavoie, D. and Storr, V. H. 2011. Distinction or Dichotomy: Rethinking the Line Between Thymology and Praxeology. *Review of Austrian Economics* 24: 213-233.

Louzek, M. 2011. The Battle of Methods in Economics. The Classical Methodenstreit—Menger vs. Schmoller. *American Journal of Economics and Sociology* 70(2): 339-463.

Menger, C. 2004 [1871]. *Principles of Economics*. Dingwall J., and Hoselitz, B. F. (tr.) Auburn: Ludwig von Mises Institute.

\_\_\_\_\_. 1985 [1883]. *Investigations into the Method of the Social Sciences With Special Reference to Economics*. Nock, F. J. (tr.) New York and London: New York University Press.

\_\_\_\_\_. 2020 [1884]. The Errors of Historicism in German Economics. Horn, K., and Kolev, S. (eds.), NOUS (tr.). *Econ Journal Watch* 17(2): 442-507.

\_\_\_\_\_. 2013 [1891]. Les théories sociales de l'économie nationale classique et la politique économique moderne. *Cahiers philosophiques* 2(133): 106-117.

Mises, L. v. 2003 [1933]. *Epistemological Problems of Economics*. Reiser, G. (tr.). Auburn: Ludwig von Mises Institute.

\_\_\_\_\_. 1998 [1949]. *Human Action. A Treatise on Economics*. Auburn: Ludwig von Mises Institute.

\_\_\_\_\_. 2007 [1957]. *Theory and History. An Interpretation of Social and Economic Evolution*. Auburn: Ludwig von Mises Institute.

\_\_\_\_\_. 1962. *The Ultimate Foundation of Economic Science*. Princeton: D. van Nostrand.

\_\_\_\_\_. 2013. *Notes and Recollections with The Historical Setting of the Austrian School of Economics*. Bien Greaves, B. (ed.). Indianapolis: Liberty Fund.

Robitaille, C. 2019. Ludwig von Mises, Sociology, and Metatheory. *Quarterly Journal of Austrian Economics* 22(2): 242-270.

Rothbard, M. N. 1957. In Defense of 'Extreme Apriorism.' *Southern Economic Journal* 23(3): 314-320.

\_\_\_\_\_. 1997. Praxeology: The Methodology of Austrian Economics. In: Rothbard, M. N., *The Logic of Action One: Method, Money, and the Austrian School*, pp. 58-77. Cheltenham: Edward Elgar.

Salerno, J. T. 2010. Menger's Causal-Realist Analysis in Modern Economics. *Review of Austrian Economics* 23: 1-16.

Schumpeter, J. A. 1986 [1954]. *History of Economic Analysis*. London: Routledge.

Schutz, A. 1967. *The Phenomenology of the Social World*. Evanston: Northwestern University Press.

Smith, B. 1990. Aristotle, Menger, Mises: An Essay in the Metaphysics of Economics. In: Caldwell, B. (ed.) *History of Political Economy*, Annual Supplement to volume 22, pp. 263-288. Durham and London: Duke University Press.

Weber, M. 1978 [1922]. *Economy and Society. An Outline of Interpretive Sociology*. Roth, G., and Wittich, C. (eds.). Berkeley and Los Angeles: University of California Press.

Yagi, K. 1997. Carl Menger and the historicism in economics. In: Koslowski P (ed.) *Methodology of the Social Sciences, Ethics, and Economics in the Newer Historical School. From Max Weber and Rickert to Sombart and Rothacker*, pp. 231-258. Heidelberg: Springer.

\_\_\_\_\_. 2000. Anonymous History in Austrian Economic Thought. From Carl Menger and Anton Menger to Friedrich von Wieser. In: Shionoya, Y. (ed.) *The German Historical School. The Historical and Ethical Approach to Economics*, pp. 87-104. London: Routledge.

\_\_\_\_\_. 2011. *Austrian and German Economic Thought. From Subjectivism to Social Evolution*. London: Routledge.

Wojciechowska, W. 1968. Le sensualisme de Condillac. *Revue Philosophique de la France et de l'Étranger* 158: 297-320.

Zafirovski, M. 2010. Weber's Sociological Elements in Mises' Economics of Human Action. *Social Epistemology* 24(2): 75-98.

# Was Carl Menger Aristotelian?

RICARDO F. CRESPO

Universidad Austral, Buenos Aires

**Abstract:** In an essay published in 2003, I defended the idea that Menger is not an ‘orthodox Aristotelian’. Gilles Campagnolo and Aurélien Lordon responded to my thesis in a paper published in 2011. In the present paper, I summarize and modify the argument of my 2003 paper, considering additional sources on Menger.

**Keywords:** Aristotle, Aristotelianism, Austrian school of economics, Menger (Carl), *Methodenstreit* (dispute over methods), methodology of economics.

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## 1. INTRODUCTION

Several scholars have remarked upon Aristotle’s influence on Carl Menger’s epistemological, social, and economic ideas (Cf. Kauder 1953, 1957; Rothbard 1976, p. 68ff.; Bostaph 1978, p. 146; Campagnolo 2002, 2010; Chamilal 2000; Cubeddu 1985, 1993; Mäki 1990, p. 295ff.; Smith 1986, 1990, 1994, *passim*). Indeed, Menger often expresses himself in an Aristotelian fashion: he states that he is looking for the essence or nature of economic phenomena (see 1950 [1871], pp. 5-8), and he proposes an epistemological framework partially inspired by Aristotelian ideas (1985 [1883], pp. 148-9, 220-2; Cubeddu 1985, 1993; Alter 1990), and he sometimes quotes Aristotle directly. All this often supports the view that *Menger was an Aristotelian*. However, as Max Alter suggests, we can question the precise nature of Menger’s Aristotelianism and the degree to which Aristotle’s thought penetrates Menger’s thinking (cf. Alter 1990, p. 112ff.). In the same vein of these doubts is Reinhard Schumacher and Scott Scheall’s recent work on an unfinished biography of Menger by his son Karl. They state (2020, p. 10):

Menger [K.] also uses the biography’s introduction to counter a more recent interpretation of his father as an Aristotelian. Karl argues that his father quoted Aristotle in the *Grundsätze* only to disagree with him. There is no evidence, Karl adds, that indicates a very profound Aristotelian influence on his father and much that argues against it. Karl does not name the target of this criticism, but it was probably aimed at either Emil Kauder (1957, 1959, 1961, 1962, 1965) or Murray Rothbard (1976), both of whom had offered Aristotelian interpretations of Menger in the years just before the biography was written. Incidentally, Hayek concurred

with Karl's assessment of this issue in a letter to the younger Menger, calling Menger père "as anti-Aristotelian as is possible," explicitly criticizing Kauder (Hayek n. d., our translation).

In the next section of this paper, I will introduce all the references made by Menger to Aristotle in the two editions of the *Principles of Political Economy* (1950 [1871], 1960 [1923]), in the *Investigations into the Method of the Social Sciences* (1985 [1883]), and in his paper "On money" (Campagnolo 2005 [1909]). This inventory will provide a first insight regarding the question: was Carl Menger an Aristotelian? For many more quotes of Aristotle by Menger, it is necessary to explore the archives, as Emil Kauder, Kiichiro Yagi and Gilles Campagnolo have, in turn already undertaken.

In what follows, I will raise three objections against the thesis that Menger endorsed an orthodox Aristotelian position. First, according to Aristotle, economics is a practical and *not* a theoretical science, as Menger seems to maintain. Menger's exact orientation of theoretical research seems to be much more of a *Naturwissenschaft* (natural science) than a practical science (Section 3). Second, even if we adopt as our starting point a conception of economics as a theoretical rather than practical, Menger's thesis that it is a 'methodological absurdity' to test conclusions derived from exact laws employing empirical evidence is *not* Aristotelian (Section 4). Finally, while Menger's explanation of the origin of so-called 'organic institutions' can be considered Aristotelian, the way these organic institutions function cannot (Section 5). In the last section I offer some conclusions.

## 2. MENGER'S REFERENCES TO ARISTOTLE

This section introduces Menger's references to Aristotle. I will first present some miscellaneous references concerning epistemology and politics, and then I will group them respectively under the topic of economics.

A reference appears in the *Investigations* about the imperfections of the realistic-empirical orientation of theoretical research. He supports his arguments by stating that "Aristotle recognized this correctly when he denied the strictly scientific character of induction" (1985 [1883], p. 57), which is correct when considering enumerative induction.

A second reference in the *Investigations* is in the context of Menger's explanation of the task of the exact theory of political economy. Though it does not explain the totality of social and human phenomena, it affords us "*the understanding of a special side of human life, to be sure, the most important, the economic*" (1985 [1883], p. 87, italics in original). He then affirms that the great theoreticians of ethical phenomena have started their theories with this methodological point of view, and he includes Plato and Aristotle. In effect, Aristotle's first book of *Politics* deals with *oikonomiké*. What is dubious is that he considered it as the most important aspect of human life.

The *Investigations* includes a whole Appendix (VII) concerning "Aristotle's Theory of the Origin of the State" (1985 [1883], pp. 220-222). It describes, picking up long passages from Aristotle's *Politics*, his genealogical natural process of constituting the *polis*, and he criticizes an interpretation of these passages that considers that civilized men are inconceivable without the state. An appraisal of Menger's interpretation exceeds the scope of this section, but it can be found in works of Campagnolo (2002, 2010, 2012). Also note that in the corresponding passages of *Politics* I, Aristotle simultaneously presents a genealogical and a metaphysical explanation of the *polis*. For him, though genealogically the *polis* appears as a temporally last step, it has metaphysical priority, because it is the final cause of the previous steps, and the final cause is ontologically the first cause. I will come back to this topic and reference in Section 5.

In the *Investigations*, there are also a few references to Aristotle supporting the idea that closeness to facts and adaptation to them are the marks of good politics, which I consider a correct interpretation of Aristotle by Menger (1985 [1883], pp. 163, 165, 166, 169, 184).

Concerning economic matters, there are references to Aristotle about the nature of "goods". In Appendix A (Chapter 1) of the *Principles*, Menger notes that "Aristotle calls the means of life and well-being

of men ‘goods’” (1950 [1871], p. 286; 1960 [1923], p. 21). While I did not find the term “good” in Aristotle’s passage as quoted by Menger (*Politics* I, 4 1253b 23-25), the idea is correct. Another reference to Aristotle concerning the nature of goods is in Chapter I of the *Principles* where Menger refers to “a special situation”—things that do not satisfy human needs but are however considered by men as goods. In a footnote, he asserts: “Aristotle (*De Anima* III, 10, 433a 25-38) already distinguished between true and imaginary goods according to whether the needs arise from rational deliberation or are irrational” (1950 [1871], p. 53, nt. 5; 1960 [1923], p. 23, nt. 12). I consider that the text referenced in *On the Soul (De Anima)* fits with Menger’s idea and is proof that Menger has read not only the *Nicomachean Ethics* and *Politics* but also other works of Aristotle.

There are also some references to Aristotle concerning use value, exchange value, and money. Appendix D to Chapter III starts by stating: “As early as Aristotle we find an attempt to discover a measure of the use-value of goods and to represent use value as the foundation of exchange value” (1950 [1871], pp. 295-6; 1960 [1923], p. 126, nt. 65). Menger partially quotes *Nicomachean Ethics* V, 5 1133a 26-1133b 10: “there must be something that can be the measure of all goods ... This measure is, in reality, nothing other than need, which compares all goods. For if men desire nothing of if they desire all goods in the same way, there would not be trade on goods” (1950 [1871], p. 296; 1960 [1923], p. 126). Menger’s reading of this passage is a modern reading, which according to Campagnolo and Lagueux (2004) is somewhat of an anachronism because we cannot affirm whether Aristotle had preconceived the notions of use and exchange value.

Menger criticizes Aristotle because the Stagirite thinks that exchange can be only between equivalents. This criticism is present in the two editions of the *Principles* (1950 [1871], p. 305; 1960 [1923], p. 168) and in “On Money” (Campagnolo 2005 [1909], p. 259). I quote from the *Principles*:

The error of regarding the quantities of goods in an exchange as equivalents was made as early as Aristotle, who says: “To have more than one’s own is called gaining and to have less than one’s original share is called losing, e.g., in buying and selling . . . but when they get neither more nor less but just what belongs to themselves, they say that they have their own and that they neither lose nor gain.” (*Nicomachean Ethics*, v. 5. 1132b, 13-18.)

Continuing, Menger says:

If, then, first there is proportionate equality of goods, and then reciprocal action takes place, the result we mention will be effected. And this proportion will not be effected unless the goods are somehow equal (*ibid.*, 1133a, 10-26).

In “On Money” Menger explains (Campagnolo 2005 [1909], p. 260):

The old theory lies upon the idea that the equality of values is the main concern in the exchange process. Now, such a hypothesis is diametrically opposed to the real intentions of the traders. Neither one [partner] nor the other thinks in the least of exchanging some equal value for another equal value: the goal they follow is to satisfy their needs, as much as the resources at their disposal will allow each of them to do. Usually, exchange happens only when each partner believes they can see in it the means to make their economic situation better. People who do business do not care in the least about exchanging equal units, equal quantities of labor, identical production costs, “goods of equal economic value,” or “equal quantities of value enclosed in the exchanged products,” or anything similar. If they had such a purpose, it is sure they would find it quite difficult to act so. But they just do not think in the least of something like that. They trade in order to realize their economic profit, and they consider their mutual advantage when determining the amount of the goods they exchange. Exchange does not require any previous measuring.”

In personal correspondence, Campagnolo (May 13, 2021 and subsequently) wrote about this passage:

“Old theory” means the tradition that favors the idea of exchanging equivalents, notably the Classics (and Marx, of course, since he is a Classic with regard to labor, plus others like the Socialists of the chair: with these, Marx has in common the confidence in historicism). Those read Aristotle in the way that Menger disagrees with (and so Menger disagrees with Aristotle when interpreted in that way). Aristotle does not necessarily say so, but those “old theorists” interpret in that way the issue of “commensurability” of goods (or services) offered and received: what is underlying exchange must be “one”. In my view, this is due to the underlying *hypokeimenon* notion. They all think that what is offered and what is received in exchange must be “equal”. Exchange value is objectively one. And use value is regarded as objective (this is particularly clear with Marx quoting Aristotle at the beginning of *Capital*). And for Menger, that is “starting from the erroneous idea”.

It is very difficult to interpret what Aristotle means in the *Nicomachean Ethics* V, 5 about exchange. However, this text Menger uses to criticize the equivalent view of the “classics” which are the focus of his discussion. There is an additional feature to highlight. Menger’s above quotation of Aristotle is not all from *Nicomachean Ethics* V, 5, as Menger cites. The first part of it is from *Nicomachean Ethics* V, 4, which is not about reciprocity in exchange, but about corrective justice. The logic of both is different as Campagnolo and Lagueux (2004) carefully argue: equality in corrective justice is arithmetic, while in reciprocity it is proportional. It is not possible to know whether the confusion is intentional or just a mistake. In any way, it strengthens Menger’s criticism.

Finally, there are three references to Aristotle on the nature of money. In the *Principles* Menger notes that Aristotle had “already observed that money serves as a measure in the trade of men” (1950 [1871], p. 277 and the same idea in 1960 [1923], p. 261, nt. 153). Again in the *Principles* (1950 [1871], p. 315 and almost word for word in 1960 [1923], p. 246, nt. 116) and in the *Investigations* (1985 [1883], p. 153), he agrees with Aristotle on the conventional nature of money quoting the right passages. The last reference to Aristotle is about the ease of transport and the relative stability of the price of metallic money (1950 [1871], p. 316; 1960 [1923], p. 246, nt. 116).

My conclusion is, first, that Menger was very familiar with Aristotle’s works as quoted by him; and second, that he used them to support his ideas, sometimes correctly, sometimes in a slightly forced way. In the following sections, I will present the reasons why I do not think that Menger “quoted Aristotle in the *Grundsätze* only to disagree with him”, as his son Karl states, but that Menger is only superficially Aristotelian.

### 3. ECONOMICS: PRACTICAL OR THEORETICAL SCIENCE?

A presentation of the first objection must be preceded by a rough presentation of Aristotle’s and Menger’s classifications of sciences, and by an examination of the epistemological status of economics. Aristotle distinguishes between theoretical, practical, and technical sciences (*Metaphysics* VI (E), 1, 1025b).<sup>1</sup>

Aristotle deals with the theoretical sciences in *Posterior Analytics*, where he writes that science is an infallible, true and certain knowledge of a necessary universal object,<sup>2</sup> of “whatever belongs to something both of every case and in itself and as such”<sup>3</sup> (*Analytics* II, I, 4, 73b 26). Universals show the causes (Cf. *Analytics* II I, 31 88a 5). Thus, for Aristotle, science is the knowledge of things by their causes.

However, this definition only applies to the theoretical sciences. For Aristotle, practical science is not a science in the former ‘strict’ sense, but a science ‘by similarity’ (*kath’omoitesin*).<sup>4</sup> First, human acts are not necessary but contingent. Second, practical sciences are not intrinsically unconcerned as the theoretical sciences are. For Aristotle, “science” is an analogical concept and its common feature must be a “state of capac-

ity to demonstrate,” (*Nicomachean Ethics* VI, 3, 1139b 32), a demonstrative habit. Thus, practical sciences are sciences despite not having a necessary subject-matter. They have these characteristics: they acknowledge the inexact character of their conclusions, they must be closely related to specific cases, they have an ethical commitment, they have a pragmatic end, and finally, they are methodologically *plural*. What are the practical sciences for Aristotle? Is economics (*oikonomike*) one of them? He answers:

For it [*Politics*] determines which science ought to exist in states, what kind of sciences each group of citizens must learn, and what degree of proficiency each must attain. We observe further that the most honored capacities, such as strategy, *oikonomike* and oratory are contained in politics (NE 1094a 26 -b 6).

Thus, for Aristotle, economic science is one of the practical sciences (see my 2006).

Let us pass to Menger, first to his classification of sciences. He divides research into two main orientations, historical and theoretical sciences, (cf. 1985 [1883], p. 38) whose ends are the cognition of the individual and general aspects of phenomena respectively (cf. 1985 [1883], p. 35). The theoretical orientation looks for typical forms and relationships between them (cf. 1985 [1883], p. 36). For him, “the purpose of the theoretical sciences is the understanding of the real world, knowledge of it beyond experience and control of it” (1985 [1883], p. 36). Menger identifies a third kind of knowledge: practical sciences or technologies. He applies this classification to economics, dividing it into history and statistics, dealing with individual aspects of economic phenomena, theoretical economics, focusing on general aspects of economic phenomena, and economic policy and finance—the practical branches of economics (cf. 1985 [1883], p. 39). Menger gathers these disciplines under the heading of “political economy” (cf. 1985 [1883], pp. 39-40). On theoretical research, Menger states:

Theoretical economics has the task of investigating the *general nature* and the *general connection* of economic phenomena [...] The phenomena, or certain aspects of them, and not their linguistic image, the concepts, are the object of theoretical research in the field of economy (1985 [1883], p. 37, footnote 4, italics in original).

Menger does not intend to build concepts and models that “represent” reality, but to grasp reality itself. For him, as Kauder suggests, “laws are not constructions of our mind but descriptions of the eternal configurations in economic life” (Kauder 1957, p. 416).<sup>5</sup>

Within theoretical research, Menger considers two orientations: *realistic-empirical* and *exact*. The former “arranges the totality of the real phenomena in definite empirical forms and in an empirical way to determine the regularities in their coexistence and succession” (1985 [1883], p. 56). To do so, it uses induction, which cannot provide scientific certainty, as Aristotle recognizes (cf. 1985 [1883], p. 57), already mentioned in the previous section). Menger is referring to empirical induction (not essential induction or ‘abstraction’). This is confirmed when he quotes Bacon (cf. 1985 [1883], pp. 57, 60). Thus, the realistic-empirical orientation, as Menger understands it, leads to *real types* and *empirical laws* in their “full empirical reality” (1985 [1883], pp. 56-7), italics in orginal). Consequently, its conclusions are fallible.<sup>6</sup> For him, in real economic acts, we do not only have economically pure reasons but also “error, ignorance, and external compulsion” (1985 [1883], p. 64).

The exact orientation of theoretical research aims to determine the exact (or infallible) laws of phenomena. The method is to seek “to ascertain the *simplest elements* of everything real” (1985 [1883], p. 60). In this way, one arrives at *qualitatively* strict typical empirical forms and typical relationships that are *laws* of phenomena (cf. 1985 [1883], p. 61). These “bear within themselves the guarantee of absoluteness” (1985 [1883], p. 59) and they hold independently of spatial and temporal conditions (cf. 1985 [1883], p. 112). We grasp them by “abstraction” (1985 [1883], pp. 62, 65, 218). Mäki notes that Menger is referring to Aristotelian abstraction that leads to universal concepts and relations through them.<sup>7</sup> Thus, Menger’s theoretical exact re-

search resembles Aristotle's theoretical science. Referring to this exact orientation, Menger uses the slogan "*scire est per causas scire*" ("to know is to causally know"), (1985 [1883], p. 93) and he states, as already mentioned in the previous Section:

The great theoreticians in the realm of ethical phenomena have from the beginning started out with these methodological points of view. With this view Plato and Aristotle also approached the task of constructing theories of social phenomena (1985 [1883], p. 87).

Let us see now what economics is according to Menger. For Menger, the matching of human needs with goods able to satisfy them, is at the root of economic activity (cf. 1985 [1883], p. 94 ff.). He states: "by *economy* we understand the precautionary activity of humans directed toward covering their material needs; by *national economy*, the social form of this activity" (1985 [1883], p. 63). Summing up, economic action is a kind of human intentional action.

Yet, when Menger specifies the characteristics of economic action, tension seems to arise between its intentional and exact character, between reality and theory, between the realistic and the exact orientation of research. He affirms:

The most original factors of human economy are the needs, the goods offered directly to humans by nature [...], and the desire for the most complete satisfaction of needs possible [...] All these factors are ultimately given by the particular situation, independent of human choice" (1985 [1883], p. 63).

Menger develops this idea in Appendix VI, entitled "The Starting Point and the Goal of All Human Economy Are Strictly Determined". Here he states that "economy is really nothing else than the way which we travel from the previously indicated starting point of human activity to the previously indicated goal" (1985 [1883], p. 217). Therefore, he concludes that *the best way of studying human activity* is the exact orientation:

The *exact* orientation of theoretical research in the above field [...] examines the phenomena of *abstract economic reality*, phenomena which are strictly determined, as we saw. It thus, to be sure, does not arrive at exact laws of the *real*, in part extremely uneconomic, phenomena of human economy but it does arrive at exact laws of economic reality (1985 [1883], p. 218).

That is to say, the only way to reach exact conclusions is to accept that they are unreal. He acknowledges that "the results of exact research [...] are true only with certain presuppositions, with presuppositions which in reality do not always apply" (1985 [1883], p. 69). Some of these assumptions are that people are governed by egoism, that they are uninfluenced by error, ignorance, as well as by external compulsion, (cf. 1985 [1883], p. 64) and that they have perfect knowledge (cf. 1985 [1883], p. 71). For Menger, freedom of the human will is one of the elements that make a difference between economic theory and the real world (cf. 1985 [1883], p. 214). He is thus disregarding freedom and other features of real economic actions. Therefore, in his writings, economics seems to become a sort of mechanical *technique* or a *Naturwissenschaft*.

However, this conclusion must be nuanced in the light of the second edition of the *Principles* and an article on the classification of economic sciences. In this edition of the *Principles*, Menger distinguishes two orientations of the economy: a "technical-economic" ("die technisch-ökonomische Disposition" 1923, p. 73) and an 'economizing' ("die spandere" 1923, p. 74; "die ökonomisierende" 1923, p. 76). The first orientation aims at providing the goods that we need, and the second, when insufficiency of means prevails, aims at doing so by "economizing" in the best possible way. We cannot identify, he affirms, the concept of "economy" ("Wirtschaft") with the concept of "economical" ("Wirtschaftlichkeit", 1923, p. 61). Thus, it is not paradoxical to speak of an "economic economy" ("einer wirtschaftlichen (ökonomischen [...] Wirtschaft") and of a

“non-economic economy” (“unwirtschaftlichen (unökonomischen) Wirtschaft” (ibid.).<sup>8</sup> As Giandomenica Becchio maintains “Menger clarified that these two basic directions of human economy ‘spring from *causes that are different and independent from one another*’ and they are actually independent of one other, but they are connected and their connection determines the most complete meaning of the nature of the human economy” (2014, p. 247).

This is consistent with his article “Toward a Systematic Classification of the Economic Sciences” from 1889 (1960). This plurality matches with the previous distinction of the economy. A plurality of subject-matters (plural but related) calls for a plurality of sciences (plural but related). The article aims at ascertaining “*the position of economic theory [Wirtschaftstheorie] within the entire dominion of the economic sciences [Wirtschaftswissenschaften] in general*” (1960, p. 3), with the former dealing with the economy in the restricted sense and the latter with the economy in a broad sense that includes the ‘non-economic economy’.

Additionally, economic theory has the role of demonstrating (*Darstellung*) and understanding (*Verständnis*) economic phenomena (1889, p. 6; 1960, p. 7). The German words “to understand” and “understanding” (*Verstehen* and *Verständnis*), especially in Menger’s time, had a specific meaning related to a way of explaining in the human sciences by capturing the intentional aspect of human actions: a “comprehension”, or “appreciation”. Understanding is also a role of applied science (1960, p. 20). He uses the term “practical sciences” (*praktische Wissenschaften*) as equivalent to “applied science”, referring to *anthropina philosophia* (an expression of Aristotle, “all the sciences of man” [*alle Menschheitswissenschaften*], Menger explains) which *reasonably (verständig)* apply general principles to specific cases (1889, p. 18 footnote 1; 1960, p. 35, endnote 14).

He states: “both the exact and the realistic orientation of theoretical research have the aim of making us understand theoretically *all* the phenomena of the economy, each in *its way*” ([1883] 1985, p. 68). In his 1889 article he speaks about two “essentially distinct principles of classification [of sciences]: on the one hand, according to the nature of the objects of inquiry, i.e., the different *fields* of reality which constitute the subject of scientific cognition; and on the other hand, according to the different lines of scientific inquiry, i.e., the different *methods of approaching reality*” (1960, p. 4; see also [1883] 1985, Appendix II, p. 198). However, he had stated that both orientations usually work together: “In scientific *presentation*, however, exact and realistic knowledge are seldom treated separately” ([1883] 1985, p. 67).

Besides, he argues against “epistemologists” (*Erkenntnistheoretiken*) that have a narrow notion of science and affirms that history and applied economics are sciences because they help us to understand (*Verständnis*) human ends (see 1960, p. 14).

All in all, though the priority is for the exact orientation of theoretical investigation, the later considerations “downgrade” this priority and nears Menger’s conception with Aristotle’s because he considers practical sciences of economics under a wider umbrella of economic sciences.

From the aforementioned analysis, one can draw the following conclusion: for Aristotle economics was a practical science while, for Menger, economics has a relevant core which is the exact theoretical orientation. This latter orientation resembles Aristotle’s theoretical science. Consequently, there is a difference between Aristotle’s and Menger’s conception of economics: for Aristotle it is an only practical science, while for Menger it is both theoretical and practical, but the priority is theoretical. Menger states that he is looking for the “laws of economicity” (*Gesetze der Wirtschaftlichkeit*) (1985 [1883], p. 73, cf. also the translator’s footnote). However, this is not economics but a kind of philosophy of economics.

For Menger, there is only a difference of degree between natural and human sciences (cf. 1985 [1883], pp. 52, 58-9, 214-5, 219). The relevant difference is between theoretical and historical research, and between realistic and exact orientations. The fact that social phenomena give rise to less strict laws than natural phenomena does not lead theoretical science to become either practical or historical (cf. 1985 [1883], p. 51). The title of Appendix V states that “in the Realm of Human Phenomena Exact Laws (So-Called ‘Laws of Nature’) Can Be Established under the Same Formal Presuppositions as in the Realm of Natural Phenomena” (1985 [1883], p. 214). Likewise, Menger explains that the fact that abstract economics analyzes *only* some aspects of any phenomenon does not imply that it is a partial science that should be subordinated to a general theo-

ry of social phenomena (cf. 1985 [1883], p. 79). As long as the exact orientation prevails, economics becomes practically assimilated to a *Naturwissenschaft*. The empirical-realistic orientation and the practical sciences of economics, on the other hand, include some aspects of Aristotle's practical sciences. It becomes clear then that, despite using Aristotelian devices, Menger's conception of science is different from Aristotle's, or, that there is at least a tension between looking for exactness and contingency.

#### 4. THE INFALLIBILITY OF THE EXACT ORIENTATION IS NOT AN ARISTOTELIAN PROPOSITION

The empirical-realistic orientation of theoretical research is the first necessary step in research (cf. 1985 [1883], pp. 66-7). However, for Menger, the conclusions of the exact orientation cannot be corrected by empirical evidence. He considers that trying to do so implies a misunderstanding of the exact orientation of theoretical research (cf. 1985 [1883], p. 69): "It [the exact orientation] arrives at results of theoretical research which, to be sure, must not be tested by full empirical reality" (1985 [1883], p. 61). He adds: "Testing the exact theory of economy by the full empirical method is simply a methodological absurdity, a failure to recognize the bases and presuppositions of exact research" (1985 [1883], p. 69).

This view moves Menger away from Aristotle as far as being a 'real' scientist is concerned, since Aristotle does not have any problem in testing theories. However, Menger's methodological position here coincides with Aristotle's in his *Posterior Analytics*. Aristotle's views regarding the testing of theories do not present themselves as a clear and easy topic. When we read *Posterior Analytics*, we do not encounter the idea of empirical testing. This book, as said above, deals with the theoretical sciences, an axiomatic-deductive syllogistic system. Science goes from principles to conclusions in an infallible way. In *Posterior Analytics*, the conclusions reached are right because they follow the rules of justification as he defined them. Instead, as I previously explained in section 3, the method of practical sciences is plural. Aristotle develops this methodological plurality in his *Politics* and *Nicomachean Ethics*. This also applies to the cases of physics and biology. Every deduction is based on principles that are not all obtained by deduction. The way toward principles begins with induction. First, we have essential induction, that is, an abstraction of a universal concept or relation. That supposes contact with experience because "it is consequently impossible to come to grasp universals except through induction" (*Posterior Analytics*, I, 18, 81b 2). But this is only a first step for, in actual science, the way toward principles includes experience, dialectic testing of arguments, and authoritative opinions. In his studies—especially biological (*On the Part of Animals*, *The History of Animals*), physical (*Meteorology*), and, practical (*Ethics* and *Politics*)—, Aristotle gives ample room to experience. He does this to discover scientific principles and to verify them. In *Generation of Animals*, while dealing with the generation of bees, Aristotle asserts that "credit must be given rather to observation than to theories, and to theories only if what they affirm agrees with the observed facts" (*Generation of Animals*, III 10, 760b 31). Le Blond (1939, p. 242) shows how Aristotle uses experience in detailed observation as well as in an experiment: "flux and reflux of the research going from facts to theories and from theories to facts."

Summing up, the Mengerian claim about the methodological absurdity of empirically testing conclusions of exact research is consistent with the epistemological framework of the *Posterior Analytics*. But, Menger does not fully understand Aristotle as a real scientist. The Aristotelian theoretical scientific framework does not refrain from testing conclusions by experience, since abstraction comes from, and goes back to reality, and Aristotle did test conclusions.

#### 5. THE ORGANICALLY CREATED SOCIAL STRUCTURES AND THEIR METHOD OF STUDY

Menger elaborates on his understanding of organic structures in Book Three of the *Investigations*, "The Organic Understanding of Social Phenomena" (1985 [1883], pp. 127-159). For him, we can distinguish two kinds of social phenomena: those with an intentional origin and those that originate spontaneously in an

unintended way. Menger draws an analogy between social phenomena that result from human calculations and mechanisms. Examples of such institutions are those that stem from “positive legislation” and, sometimes, laws: “we interpret these phenomena *pragmatically* by investigating the aims which in the concrete case have guided the social unions, or their rulers, in the establishment and advancement of the social phenomena under discussion here” (1985 [1883], p. 145).

Phenomena belonging to the second kind, like money, language, law, morality, cities, and states, are spontaneously created and are to be interpreted ‘organically’. They are “the unintended social result of individually teleological factors” (1985 [1883], p. 158). He includes among them economic institutions such as market, wages, prices, division of labor, interest rates, which “are not the result of socially teleological causes, but the unintended result of innumerable efforts of economic subjects pursuing *individual* interests” (1985 [1883], p. 158).<sup>9</sup> What is the meaning of organism for Menger? Menger states:

Natural organisms almost without exception exhibit, when closely observed, a really admirable functionality which is not, however, the result of human *calculation*, but of a *natural* process. Similarly we can observe in numerous social institutions a strikingly apparent functionality with respect to the whole. But with closer consideration they still do not prove to be the result of an *intention aimed at this purpose*, i.e., the result of an agreement of members of society or of positive legislation. They, too, present themselves to us rather as “natural” products (in a certain sense), as *unintended results of historical development* (1985 [1883], p. 130).

The organic explanation explains the origin and the function of this kind of social institution. However, Menger uses this analogy carefully: “it is an inexact one,” it is not strict (1985 [1883], p. 132; cf. p. 133). Firstly, there is not mutual causation between parts and the whole (cf. 1985 [1883], pp. 132–3). Secondly, social organisms are not the product of natural forces, but human efforts (cf. 1985 [1883], p. 133). Then, because Menger wants to preserve the notion of the individual, “the acknowledgment of a number of social phenomena as ‘organisms’ is in no way in contradiction to the aspiration for exact (atomistic!) understanding of them” (1985 [1883], p. 141). Menger is stressing that these phenomena are *unintended results* of individual human efforts pursuing individual interests, and *not results from a common will* directed toward the design and establishment of those institutions (cf. 1985 [1883], p. 133). I move on to pragmatic social institutions and phenomena, and mechanisms, quoting Menger once again:

A large number of social structures are not the result of a natural process, in whatever sense this may be thought of. They are the result of a purposeful activity of humans directed toward their establishment and development (the result if the agreement of the members of society or of positive legislation). Social phenomena of this type, too, usually exhibit a purposefulness of their parts with respect to the whole. But this is not the consequence of a natural “organic” process, but *the result of human calculation which makes a multiplicity of means serve one end*. Thus we cannot properly speak of the “organic” nature or origin of these social phenomena which, even if an analogy come into question, are not analogous to *organisms* but to *mechanisms* (1985 [1883], p. 133).

Finally, what is the difference between organism and mechanism according to Menger? He asserts:

The organism is distinguished from the mechanism by the fact that on the one hand it is not, like the latter, a product of human calculation but of a natural process. On the other hand its individual part (each organ) is conditioned not only in its normal *function*, but also in its normal *nature* by the connection of the parts to form a higher unit (the organism in its totality) and by the normal nature of the other parts (the organs). This is by no means the case with a mechanism (1985 [1883], p. 132, footnote 46).

Menger subsumes the problem raised by organic institutions for the social scientist into this question: "How can it be that institutions which serve the common welfare and are extremely significant for its development come into being without a common will directed toward establishing them?" (1985 [1883], p. 146). For him, if we are to understand the functioning of organic institutions, we must achieve a theoretical understanding of the origin and change of such institutions (cf. 1985 [1883], p. 147): "The methods for the exact understanding of the origin of the 'organically' created social structures and those for the solution of the main problems of exact economics are by nature identical" (1985 [1883], p. 159).

Menger relates the analogy between natural organisms and social phenomena to Plato and Aristotle (cf. 1985 [1883], p. 131). This is where I raise my third objection which can be summarized as follows: first, this analogy is not Aristotelian and, second, except for the explanation he gives of the origin of organic institutions, what he tries to explain through the analogy is not Aristotelian either.

"Organicism" is the label for a group of philosophical currents that apply the analogy of natural organisms to different fields: biology, a world-view, a conception of society and state. This position is discussed in Otto von Gierke's *Das deutsche Genossenschaftsrecht*. The organicist analogy, von Gierke explains, is present in the very idea of society as an organism, and the explanation of the origin and growth of social institutions (cf. von Gierke 1934, 1963 [1868], p. 110, 118 ff.). Organicism as a conception about society evolves as a theory that maintains that society works as a biological organism. Within this organism, parts "naturally" operate for the benefit of the whole which, conversely, affects the parts. This analogy may lead to a loss of individuality and survival of the parts independently from the whole, which is not the case for Menger, as explained.

Aristotle used such analogies when referring to the relation of the whole to the parts in the case of the *polis*. In this instance, however, the parts of the *polis* survive substantially once separated from the whole: the choir and the singers; the ship and its captain and crew; the gymnasts; the physician and his patients. These analogies are adequate because, for Aristotle, the *polis* is a whole whose parts are subsistent and have different functions oriented toward the end of the whole: "The *polis* is composed of unlike elements" (*Politics*, III, 4, 1277a 7ss.).

Therefore, it is not appropriate to attribute the organic analogy to Aristotle, as Menger does, because, firstly, Aristotle does not use it predominantly and, secondly, it may be misleading: while substantial parts do not survive in the organic analogy, Aristotle defended this survival, as Menger does. Menger's view is like Aristotle's but the label "organic" results confusing because it refers to a doctrine that is neither Aristotle's nor Menger's.

The relevant difference between Aristotle and Menger concerning this point lies in the way in which Menger uses the organic analogy. According to Aristotle, the fact that some institutions like a house, a village, and a *polis* have a natural character does not exclude the possibility, or the need, of a teleological orientation that is part of the very natural process of the relevant institution. Teleology is central to Aristotle's conception of social wholes. From an Aristotelian point of view, individual actions do not automatically guarantee an ordination to a general end; the natural orientation has to be discovered and achieved with effort: it is not reached spontaneously, unintendedly. For Aristotle, order in the human realm is not a fact but a task. This point of view differs from Menger's. Aristotle would assert that social phenomena are the result of innumerable individual efforts that take care of the general end of a given society. Justice as a general virtue consists in taking care of the end of society as a whole (cf. *Nicomachean Ethics*, V, 1-2). Furthermore, there is a coincidence between what the individual has to do and the general end: the end of politics is simultaneously the good for each man (cf. *Nicomachean Ethics*, I, 2).

As regards the origin and development of some social institutions, Menger follows Aristotle more faithfully. He explains that social institutions are phenomena that have not always existed, but that they follow a process of birth (cf. 1985 [1883], p. 149 and Appendix VII). However, Menger's loyalty to Aristotle is not complete for, from an Aristotelian point of view, it is not correct to state, as Menger does, that instincts impel man to associate with others and to form a state (cf. 1985 [1883], p. 222). Aristotle asserts that a house, a village, and a *polis* have a natural origin, but 'natural' does not mean 'instinctive'. For him, acts concern-

ing the *polis* are *voluntary*. Besides, for Menger, *polis* means the state, an identification with which Aristotle would disagree. The modern state bears little resemblance to the *Aristotelian polis*.

Given the fact that Menger's organism is not exactly Aristotelian, where could it come from? Menger clarifies this point in the Preface to *Investigations*: "In the field of linguistic research, of political science, and of jurisprudence new orientations of research have come to prevail (...) How obvious was the notion of applying these efforts to our field of knowledge!", organicists efforts (1985 [1883], p. 29).<sup>10</sup>

All in all, I conclude that although the understanding of the origin of organic social institutions has similarities with Aristotle's position, Menger's conception of it is not entirely Aristotelian. Besides, even by disregarding this analogy, Menger's idea of some institutions being originated as unintended consequences of individual actions does not properly correspond to Aristotle's conception about the same institutions.

## 6. CONCLUSION

Among historians of economic thought, it is generally assumed that Menger was an Aristotelian. This paper has raised doubts about the "purity" of this Aristotelianism. First, a general survey of Menger's references to Aristotle has been provided in Section 1. Then, three arguments against Menger's suggested Aristotelianism have been analyzed. The first is that while for Aristotle economics is a practical science, for Menger the core of it is theoretical science. The second is that the Mengerian idea about the 'untestability' of the conclusions of theoretical research is not a tenet employed by Aristotle both in practical and natural theoretical science. Third, Menger explains some social institutions or phenomena in a way that, although making use of some Aristotelian concepts, is not Aristotelian. The three objections against Menger's Aristotelianism here presented suggest that caution is needed when making such claims. Menger uses Aristotle's concepts, he knows Aristotle's philosophy, and he applies some of them to the social field. However, his knowledge does not fully capture the "spirit" that embeds them. My conclusion: Menger was not a strict Aristotelian.

## NOTES

- 1 For Aristotle's concept of science and *oikonomike* as science, see Crespo 2014. In respect to the ontological nature of *oikonomike*, see Crespo 2006.
- 2 Cf. *Posterior Analytics* 4, 73a 23-4; 6, 74b 14; 8, 75b 24; see also *Nicomachean Ethics* (NE) VI, 3, 1139b 23-4.
- 3 Cf. *Analytics* I, 31, 87b 28-35; *De Anima*, II, 5, 417b 23; *Metaphysics* E, 2, 1026b 24 - 1027a 20 and K, 8, 1064b 27-1065a 5.
- 4 This solution is proposed by Gauthier (1970), II, pp. 23-5, 453-5, relying on NE VI, 3.
- 5 In a letter to Walras, Menger states that "We do not simply study quantitative relationships but also the NATURE (*das WESEN*) of economic phenomena." Quoted by Hutchison 1973, p. 17, footnote 5. In the same letter, Menger insists on the *divergence* of their interests: cf. Campagnolo 2010: 304, endnote 46, p. 371.
- 6 As E. Kauder suggests, the formulation used in a letter to Walras—"des lois fixes"—is more adequate, because more than exactness, Menger is meaning infallibility (cf. 1957, p. 103).
- 7 Cf. Mäki 1990, p. 295. This position is also held by Smith (1990, pp. 266-7; 1994, pp. 34-5). And Alter (1990, p. 107).
- 8 I will not discuss here the fidelity of this second edition prepared by Menger's son Karl with his father's thinking. Scheall and Schumacher (2018), based on Karl's diaries, deal with the relation between Carl and Karl. They show that Karl did great part of his work of revising the text during Carl's last years of life, from 1918 (Carl died in February 1921) and "he [Karl] noted that organizing the chapter on the economy was his greatest accomplishment as editor of the 2nd edition" (2018, p. 666).
- 9 Cf. also 1892: 255 about money: "Money has not been generated by law. In its origin it is a social, and not a state-institution."

10 He refers to authors quoted in the rest of the book: Wilhelm von Humboldt on linguistics, E. Burke on Politics, Herbert Spencer, on the topic of ethics, and Fr. C. von Savigny, K. F. Eichhorn, B. G. Niebuhr and—before them—G. Hugo and Justus Möser, on Law, Albert E. F. Schäffle, on the conception of society. They are all authors who belong to a new kind of organicism. Alter (1982, 1990) points out the clear influence that they exercised on Menger in this regard. Lawrence White also indicates this in his Introduction to the English version of *Investigations* (8ff.). Yagi 1997, Meyer 1990 and Hutchison 1973 also agree.

## REFERENCES

Alter, M. 1982. Carl Menger and *Homo Oeconomicus*: Some Thoughts on Austrian Theory and Methodology. *Journal of Economic Issues* XVI(1): 149-160.

—. 1990. *Carl Menger and the Origins of Austrian Economics*. Boulder, San Francisco, Oxford: Westview Press.

Aristotle. 1958. *Politics*. Ed. and tr. E. Barker. Oxford: Oxford University Press.

—. 1984. *The Complete Works of Aristotle. The Revised Oxford Translation*. Ed. Jonathan Barnes. Princeton: Princeton University Press.

Becchio, G. 2014. Social Needs, Social Goods and Human Associations in the Second Edition of Carl Menger's *Principles*. *History of Political Economy* 46(2): 247-264.

—. 2011. Does an "Heterodox" Menger doctrine exist with Regard to the Interpretation of the Second Edition of the Principles. In : Campagnolo, G. (ed.), *Existe-t-il une doctrine Menger? Aux origines de la pensée économique autrichienne*, pp. 167-186. Aix-en-Provence: Presses Universitaires de Provence. Also: <https://books.openedition.org/pup/1619#text>. Accessed 20 June 2020.

Bostaph, S. 1978. The Methodological Debate Between Carl Menger and the German Historicists. *Atlantic Economic Journal* VI(3): 3-16.

Caldwell, B. (ed.).1990. *Carl Menger and His Legacy in Economics*. Supplement 22, *History of Political Economy*. Durham: Duke University Press.

Campagnolo, G. 2002. Une source philosophique de la pensée économique de Carl Menger: l'*Éthique à Nicomaque* d'Aristote. *Revue de philosophie économique* 6(2): 5-35.

—. 2005. Carl Menger's "Money as Measure of Value". Tr. Gilles Campagnolo. *History of Political Economy* 37(2): 245-261.

—. 2010. *Criticisms of Classical political economy. Menger, Austrian Economics and the German Historical School*, pp. 223-253. London & New York: Routledge.

—. 2012. Deutsche Archive in Japan und das Beispiel: Carl Menger und sein Verständnis der *Nikomachischen Ethik* des Aristoteles. In: H. Kurz (Dir.), *Der Einfluss Deutschsprachigen Wirtschaftswissenschaftlichen Denkens In Japan*, pp. 131-177. Berlin: Duncker & Humblot.

—. 2021. Was Menger Aristotelian? A Rejoinder And Clarification. *Cosmos + Taxis*. Essay in the present issue.

Campagnolo, G. and M. Lagueux 2004. Les rapports d'échange selon Aristote. *Éthique à Nicomaque* V et VIII-IX , *Dialogue: Revue de l'Association canadienne de philosophie*, Montréal vol. XLIII(3): 443-469.

Campagnolo, G. and A. Lordon. 2011. Menger était-il aristotélicien ? Nouvelles réflexions sur un débat déjà ancien à l'occasion d'une réponse à Ricardo F. Crespo. In: *Existe-t-il une doctrine Menger? Aux origines de la pensée économique autrichienne*, pp. 45-74. Ed. G. Campagnolo. Aix-en-Provence: Publications Universitaires de Provence.

Chamilal, N. 2002. La genèse du label 'autrichien': la pensée de Carl Menger. *Journal des Économistes et des Études Humaines* X(1): 53-118.

Crespo, R. F. 2003. Three Arguments against Menger's Suggested Aristotelianism, *Journal des Économistes et des Études Humaines* 13(1): 63-84 and *The Berkeley Electronic Press* 13, 1, 3.

—. 2006. The Ontology of 'the Economic': an Aristotelian Perspective, *Cambridge Journal of Economics* 30(5): 765-781.

—. 2014. *A Re-Assessment of Aristotle's Economic Thought*. Abingdon: Routledge.

Cubeddu, R. 1985. Fonti filosofiche delle *Untersuchungen über die Methode der Social-wissenschaften* di Carl Menger. *Quaderni di storia dell'economia politica* III(3): 73-158.

—. 1993. *The Philosophy of the Austrian School*. London & New York: Routledge.

Gauthier, René Antoine. 1970. *Éthique à Nicomaque* avec Commentaires. Publications Universitaires: Louvain, Béatrice-Nauwelaerts, París.

Gierke, O. von. 1963 [1934/1868]. *Natural Law and the Theory of Society*. Cambridge: Cambridge University Press. (English tr. 1934, F. W. Maitland as *Political theories of the Middle Age*. Spanish translation (of *Das deutsche Genossenschaftsrecht*, vol. 3, in 1963), Julio Irazusta as *Teorías políticas de la Edad Media*. Buenos Aires: Huemul.

Hutchison, T. W. 1973. Some Themes from *Investigations into the Method*. In: Hicks, J. R. and Weber, W. (Eds.). *Carl Menger and the Austrian School of Economics*, pp. 15-37. Oxford: Oxford University Press.

Kauder, E. 1953. Genesis of the Marginal Utility Theory: From Aristotle to the End of the Eighteenth Century, *Economic Journal* 63: 638-650.

\_\_\_\_\_. 1957. Intellectual and Political Roots of the Older Austrian School. *Zeitschrift für Nationalökonomie* 17(4): 411-25.

\_\_\_\_\_. 1959. Menger and his Library. *Economic Review* 10(1): 58-64.

\_\_\_\_\_. 1961. Freedom and Economic Theory: Second Research Report on Menger's Unpublished Paper. *Hitotsubashi Journal of Economics* 2(1): 67-82.

\_\_\_\_\_. 1962. Aus Mengers Nachgelassenen Papieren. *Weltwirtschaftliches Archiv* 89: 1-28.

\_\_\_\_\_. 1965. A History of Marginal Utility Theory. Princeton: Princeton University Press.

\_\_\_\_\_. 1963. Carl Mengers erster Entwurf zu seinem Hauptwerk "Grundsätze" geschrieben als Anmerkungen zu den "Grundsätzen der Volkswirtschaftslehre" von Karl Heinrich Rau. Tokio: Bibliothek der Hitotsubashi Universität.

Mäki, U. 1990. Mengerian economics in realist perspective. In: B. Caldwell (ed.), *Carl Menger and his legacy in economics*, pp. 289-310. Durham and London: Duke University Press.

Menger, C. 1960 [1923]. *Principios Fundamentales de Economía Política*. Universidad Nacional de Cuyo, Mendoza, Argentina, translation of Grundsätze der Volkswirtschaftslehre. Mit einem Geleitwort von Richard Schüller, aus dem Nachlass herausgegeben von Karl Menger, ed. K. Menger. Vienna: Hölder-Pichler- Tempsky and Leipzig: G. Freytag.

\_\_\_\_\_. 1892. On the Origin of Money. *Economic Journal* II(6): 239-255.

\_\_\_\_\_. 1950 [1871]. *Principles of Economics*. Tr. J. Dingwall and B. Hoselitz of Grundsätze der Volkswirtschaftslehre (Vienna: Wilhelm Braumüller). Glencoe: The Free Press.

\_\_\_\_\_. 1960 [1889]. Grundzüge einer Klassifikation der Wirtschaftswissenschaften. *Jahrbücher für Nationalökonomie und Statistik* XIX: 465-496. Tr. and ed. Sommer, L. Toward a Systematic Classification of Economic Sciences. In: Sommer, L. (Ed.) *Essays in European Economic Thought*, pp. 1-38. Princeton: D. van Nostrand.

\_\_\_\_\_. 1985 [1883]. *Investigations into the Method of the Social Sciences With Special Reference to Economics*. Tr. Nock, F. and ed. Schneider, L. *Untersuchungen über die Methode der Socialwissenschaften und der Politischen Oekonomie insbesondere* (Leipzig: Dunckler & Humblot). New York: New York University Press.

Meyer, W. 1990. A Note on Menger's Philosophy of Science. *Methodus* (II/1): 46-7.

Rothbard, M. N. 1976. New Light on the Prehistory of Austrian Economic. In: E. Dolan (ed.) *The Foundations of Modern Austrian Economics*, pp. 52-74. Kansas: Sheed & Ward.

Scheall, S. 2020. Karl Menger's Unfinished Biography of His Father: New Insights into Carl Menger's Life through 1889, CHOPE Working Paper No. 2020-01, <https://www.econstor.eu/bitstream/10419/213009/1/1686963343.pdf>, retrieved 20 July 2020.

Scheall, S. and R. Schumacher 2018. Karl Menger as Son of Carl Menger. *History of Political Economy* 50(4): 649-678.

Smith, B. 1986. Austrian Economics and Austrian Philosophy. In: Wolfgang Grassl and Barry Smith (eds.), *Austrian Economics. Historical and Philosophical Background*, pp. 1-36. London & Sydney, Croom Helm.

\_\_\_\_\_. 1990. Aristotle, Menger, Mises: an essay in the metaphysics of economics. In: B. Caldwell (ed.), *Carl Menger and his legacy in economics*, pp. 263-88. Durham and London: Duke University Press.

\_\_\_\_\_. 1994. Aristotelianism, apriorism, essentialism. In: P. Boettke (ed.), *The Elgar Companion to Austrian Economics*, pp. 33-7. Cheltenham: Elgar.

\_\_\_\_\_. 1986. Austrian Economics and Austrian Philosophy. In: Grassl, W. and Smith, B. (eds.), *Austrian Economics. Historical and Philosophical Background*, pp. 1-36. London and Sydney: Croom Helm.

\_\_\_\_\_. 1994. The Philosophy of Austrian Economics (review to D. Gordon). *Review of Austrian Economics* 7(2): 127-32.

Yagi, K. 1997. Carl Menger and the Historicism in Economics. In: Koslowski, P. (Ed.), *Methodology of the Social Sciences, Ethics, and Economics in the Newer Historical School*, pp. 231-258. Berlin: Springer Verlag.

# Was Menger Aristotelian? A Rejoinder and Clarification

GILLES CAMPAGNOLO

Aix-Marseille Université, CNRS, AMSE

**Abstract:** How did Carl Menger read Aristotle? This debate is ‘old hat’ within Mengerian scholarship. Delving through the archives, new elements have been added by Emil Kauder and, more recently, by myself. Some issues raised by Ricardo Crespo are clarified in the following response. In an essay published in 2003, Crespo defended the idea that Menger is not an ‘orthodox Aristotelian’. I retorted in a paper coauthored with Aurélien Lordon in 2011. Crespo resumed the exchange, summarized and modified his argument (Crespo 2022). This rejoinder aims at setting the record straight.

**Keywords:** Aristotle, Aristotelianism, Austrian school of economics, Menger (Carl), *Methodenstreit* (dispute over methods), methodology of economics.

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## INTRODUCTION

Both in his 2003 essay and in this journal issue, Ricardo Crespo raises three objections to the thesis according to which Menger embraced a ‘strictly Aristotelian’ position:<sup>1</sup>

- 1) According to Aristotle, economics is a practical, not a theoretical science, whereas Menger maintains the latter.
- 2) Menger’s alleged thesis that it is a ‘methodological absurdity’ to test conclusions and/or results of exact economic research (theoretical economics)—is not Aristotelian.
- 3) The way Mengerian organic institutions function cannot be regarded as Aristotelian.

Regarding 1): “though the priority is for the exact orientation of theoretical investigation”, Crespo now concedes that “later considerations ‘downgrade’ this priority and nears Menger’s conception with Aristotle’s because he considers practical sciences of economics under a wider umbrella of economic sciences” (Crespo 2022, p. 81). In other terms, Crespo concedes the point that Lordon and I were making in our 2011 reply—although the reader will read in the following pages that Lordon and I did *not* mean that Menger would ever downgrade his theoretical view on science, but rather ceaselessly accommodate it in a spirit of openness and understanding for each of the three scientific attitudes he carefully distinguished within economics: the theoretical, the historical and the practical orientation. Menger recognized each category in its own place, while de-

fending the main role for theory, while that was somehow belittled by members of the German Historical School whom Menger confronted.

In his new paper, Crespo usefully starts by recalling how often Menger quoted Aristotle (Crespo 2022, part I). Therefore, we shall not repeat this, but converge with Crespo's concluding words, where he points out that "Menger knew very well the Aristotle's works quoted by him" and "he [Menger] used them to support his ideas, sometimes correctly, sometimes in a slightly forced way" (Crespo 2022, p. 78). Actually, both Crespo, Lordon and I (and most other commentators) agree that Menger never was a narrow-minded 'anti-Aristotelian'.<sup>2</sup> To be more precise requires in turn to characterize better what it means to be an 'Aristotelian'. This is Part 1 below.

Regarding 2) and 3), Crespo (2022) mostly maintains his former position, which triggered my reply with Lordon in 2011. In the following pages, I recapitulate our replies and somewhat enlarge them. Thus, all three issues raised by Crespo are discussed successively: Part 2 concerns 'classifying the sciences' and deals with theoretical *vs.* practical matters; Part 3 bears on 'testing the results of science' and deals with the main methodological point; Part 4 reassesses the well-known distinction between so-called 'organic' and 'pragmatic social structures' (in Mengerian parlance), so as to show that 'to be an Aristotelian' means more than even what Crespo has granted in his most recent move.

As to earlier literature on this topic that has been already tackled by several scholars (from Oscar Kraus to Erich Streissler via Emil Kauder and Barry Smith, among others), it shall be acknowledged as much as necessary here, albeit nowhere for its own sake. Some of it is already recalled by Crespo in his paper—in particular, we agree that the 'anti-Aristotelian' stand that Menger's son tries to extend to his father was very misleading (Crespo 2022, Part I).

## I. WAS MENGER ARISTOTELIAN: WHAT DOES IT MEAN TO BE AN 'ARISTOTELIAN'?

To answer whether Menger is a 'strict Aristotelian', generally speaking, one needs *first* to define the concept. It should be noted that Crespo does not: he is not the only commentator to have spared the burden of achieving this indispensable task. Let us try to do it in his place: an 'Aristotelian' can signify many different types of scholars. Indeed, the term was mostly used during the controversy about Ptolemeus' *vs.* Copernicus' astronomical systems in the 16<sup>th</sup> and 17<sup>th</sup> centuries. Of course, this is not the sense considered by Menger's commentators. This is still worth pointing out, because it shows that no modern author would ever embrace the 'totality' of Aristotelian views. Hence, to be an 'Aristotelian' in a modern context certainly *never* means to fully endorse all of the theories formulated by the ancient thinker. Therefore, we also do *not* assert that Menger was 'fully' or 'strictly' Aristotelian in that sense, and we point (as does Crespo) to Aristotle's thought through a sieve by Menger for his own use (Campagnolo and Lordon 2011).

Let us keep briefly to 'Aristotelianism'. It was also the denomination of a doctrine derived from other works of Aristotle other than his cosmology. The denomination was possibly forged in the 12<sup>th</sup> and 13<sup>th</sup> centuries by Scholastics who (like Thomas Aquinas) tried to reconcile Aristotle's philosophy with Christian doctrines. Much more recently, 'Aristotelianism' was regarded as the doctrine endorsing and/or adopting/adapting various facets of Aristotelian ethics, as does Alasdair MacIntyre (1981) in his important contributions in revitalizing virtue ethics. Last, 'Aristotelianism' can be defined as the doctrine resulting from adopting 'realistic-immanentistic' theories of reality: this is clearly most often in this sense that Menger gets labeled as being an 'Aristotelian'; for example, by 'critical realists' in the field of economics (despite their divergences see Lawson 1997 and Mäki 1990a, 1990b, 1997a, 1997b). Note that Bostaph writes: "in his solution of the problem of universals, Menger can usefully be identified as a 'moderate realist' or 'Aristotelian.' [...] Because his view of reality was Aristotelian he believed that entities in reality act according to their nature in 'typical' relationships" (Bostaph 1978, p. 15). This is, of course, the issue of essentialism (see below).

Unfortunately, Crespo (as do many others) lacks a definition, or rather, he does not choose (nor gives the means to choose) between such definitions. Neither does he question their possible intricacies or contradictions. Thus, it is impossible to know if either one or the other of the aforementioned doctrines is en-

dorsed, when asking whether Menger was a ‘strict’ Aristotelian. Despite all the caveats, this remains unresolved, since Menger cannot obviously *ever* be said by anyone (including us) to endorse *all* of Aristotle’s views.

Indeed, Menger straightforwardly rebuked some of Aristotle’s ideas: for instance, when he stated in his *Principles* (1871) that Aristotle’s theory of value contains *errors*.<sup>3</sup> According to Menger, Aristotle was wrong in stating that traded goods can be regarded as *equivalents*. Where Menger analyzes the concept of exchange value as presented in the *Nicomachean Ethics*, lies what appears most fundamental for a better understanding of the relevance of Aristotle in Menger’s thought. That is, whether Menger thought *pro aut contra* the Ancient (see Campagnolo 2002, 2010, chapter 7). Menger also rejected the Aristotelian view on the emergence of money, stating that Aristotle (and others) were wrong when saying that money first came from an explicit ‘convention’ between parties within some collective debate (if not already a fully-fledged ‘contract’). Menger was clearly conscious of his own *disagreements* with Aristotle.<sup>4</sup> But it is then somehow superfluous to insist on ‘non- Aristotelianism’ in Menger, if one merely wishes to say there were points where Menger departed from Aristotle—this is obvious enough. Conversely, Menger was indeed using concepts formulated by thinkers of ancient times, especially Aristotle, whereby he related strongly to the latter’s doctrine.

To be fair, the same criticism (of lacking a definition of what ‘to be an Aristotelian’ may indeed mean) can be ascribed to many commentators. Those who ‘generally’ (as Crespo writes in his conclusion) assume Aristotle as a source for Menger may be right (in our view they mostly are), they actually often failed to fully substantiate their claim. For instance, while Menger’s quest for the ‘essence of phenomena in the economy’ is accurately judged ‘Aristotelian’ from a realistic-immanentistic approach of economics (Bostaph 1978; Smith 1990, 1994; Mäki 1990, 1997; Hands 2001), many would adopt such a view and stress the role of ‘essence’ in Aristotelianism without enough caution. Yet, Milford (2008) pointed that much depends on the translation and that, in Menger’s times, the recurrent use of ‘*das Wesen, wesentlich*’ in German academic parlance should not be overrated: it does mean ‘essence’, but it was commonplace to connote the ‘nature’ of any given object. One must give a nuanced view of Menger’s ‘Aristotelianism’ on that basis.

How then may Menger still be called an ‘Aristotelian’? The reason lies in other issues, such as price theory, where his Aristotelianism is illustrated through various sources (Kraus 1905; Kauder 1953, 1957, 1962; Campagnolo 2010), issues of justice and interest, and value, especially from Book V and VIII-IX of *Nicomachean Ethics* (Campagnolo 2002; 2010, chap. 7) as well as the points debated by Crespo. One should point to the risks of over-interpreting which we do (Campagnolo and Lagueux 2004). But underrating the Aristotelian source would be worse than overrating it, since one can find enough evidence of it both in books published by Menger and in his archives, his *Nachlass* (Campagnolo 2008). Among others, the copy of *Nicomachean Ethics* that Menger owned can be usefully compared with copies of his own 1871 *Grundsätze* that he annotated.<sup>5</sup>

If Menger distanced himself from Aristotle in some aspects, his handwritten notes indeed show a constant intellectual dialogue with the Ancient. Menger extensively read and annotated Aristotle, in Greek and in his German translation *Nikomakische Ethik* (Riedler 1856).<sup>6</sup> Unfortunately, some works that Menger owned are no longer in his library, including a copy of the *Politics* and the *Organon*. The evidence is that Menger knew them well. A comparison of Aristotle’s books that Menger owned and the latter’s copy of the *Grundsätze*, shows Aristotle as the most cited reference.<sup>7</sup> As mentioned, Menger dedicated full sections of his publications to Aristotle (such as Appendix VII of his 1883 *Investigations*, concerning the origins of institutions, including the state) and wrote numerous salient notes as *marginalia* (including the *Nikomakische Ethik* again). All that is found in his notebooks and copies of the *Grundsätze*, Menger received from the publisher for corrections. Despite the loss of some volumes, there are reliable sources for scholars to investigate, both in Japan and in the US.<sup>8</sup> Regarding various definitions of ‘Aristotelianism’, those sources (including the *Nachlass*) must be accounted for. Not doing so gravely impacts debates on Menger, including the present one on his ‘Aristotelianism’.

Does all this make Menger a ‘strict Aristotelian’? In the end, the question (at least to us), makes little sense. The degree of ‘strict obedience’ in Menger’s Aristotelianism matters less than assessing where

Aristotle was undoubtedly a source for Menger, where the Viennese referred to him and where quotes support this. In a nutshell, though not a disciple of Aristotle, Menger was a solid reader of his works and partial disagreement did not make him an opponent of 'Aristotelianism'—quite the contrary. Menger developed his own theories in his own terms using Aristotelian tools. Where then does the misunderstanding lie? It lies in each of the three issues that Crespo has raised. As to the first, Crespo (2003) has changed his position enough to the degree that the issue is solved. However, on the two other issues, a short insight into Menger's *classification of sciences* may be useful to question more dogmatic views, some of which are still held by some Austrians.

## II. CLASSIFYING THE ECONOMIC SCIENCES

Crespo first characterized Menger's undertaking as follows: "Menger transforms an Aristotelian practical science into a theoretical science" (Crespo 2003, p. 71). Thus, according to Crespo, Menger was *not* following the Aristotelian classification of sciences while attempting to clarify the *rationale* for the *exact* orientation of research in economics. This is where the point he later granted remains of interest. We follow this as far as possible, stopping short of the mistake.

We hold that views on economics by Menger and by Aristotle are compatible. Actually, Aristotle distinguished between theoretical, practical, and technical sciences. Clearly theoretical sciences provide a study of separate unchangeable beings (with reference to the previous Platonic view on 'Ideas'). Beings that bear the principle of the movement of other beings within themselves are the objects of theory. The subject-matter of the practical sciences rather relates to human action, whose principle of movement is related to personal choice (like in the famous ancient analogue of 'Herakles at a crossroads'). The technical sciences deal with beings whose principle of movement is the mind and ability of the craftsman (who is, in this sense, a *poet*: hence this is a *poetic* activity), activated by the four Aristotelian causes.

What Menger does is to go beyond that classification in opening a new path, *not* available in the Aristotelian classification and Aristotelian understanding of generality in science. But it does not mean that Menger's furtherance contradicts the Ancient's view. Menger agrees about what Aristotle means by the 'general'. But he goes further, so to speak, with an 'exact' pure theory of science. Whereas Aristotle distinguished the three categories of sciences (theoretical, practical and so-called *poietic*) which diverge largely in relation to their objects, goals and methods, the theoretical sciences provide knowledge of first principles not submitted to the laws of change. This is why they essentially comprise mathematics and metaphysics, whereby deductive methods of analysis uncover the causes of phenomena. Only those demonstrations can exist in a rigorous way. Practical sciences thus comprise politics, ethics (as preparing for politics) and economics (etymologically defined as 'management of the house' vs. the chrematistics of 'accumulating wealth'). Practical sciences aim at setting the conditions of the *good* in action and not at rigorous demonstrations, because they always bear on particulars. Each field (political, ethical or economic) is unique in its style and such sciences cannot simply be taught from textbooks. Only the right kind of experience indicates the most appropriate type of action regarding the particular circumstances. Therefore, a youngster cannot yet be a full-fledged economist, since their technical expertise does not suffice. Last, the so-called 'poietic' sciences deal less with human action as such than with the effective productive work needed to obtain goods or services, such as writing (poems, theater plays) or handicrafts. In these domains technique (*techne*) is needed. All-in-all, economics for Aristotle is *exclusively a practical science*.

Needless to say, it is altogether different with Menger, although he also distinguished three forms of economic analysis: historical, theoretical and practical analysis. According to the German Historical School, history displays the evolution of collective entities (states, nations or classes), based upon observed statistics and investigations into facts. If they intended to discover any *law*, Menger states that they unfortunately cannot reach that goal; at best they only get statistical regularities. Menger clearly articulates their mistake in his open letters (1884), reaffirming results from his 1883 *Investigations*, as well as from his 'meta-classification' of sciences (Menger 1889).

Menger's theoretical economics actually deals with types and relations between types. This is why there are two orientations: empirical-realistic research and exact research. The former proceeds from induction. It finds 'empirical laws' only, which are in Menger's terms "*parallelisms in the history of economic phenomena*" (in a sense close to the historicist Wilhelm Roscher to whom Menger dedicated his *Principles*—see Milford 1992, Campagnolo 2010).<sup>9</sup> Although unable to display 'exact laws of nature', that kind of analysis is *not* devoid of interest, especially for *complex* phenomena. Conversely, the exact orientation displays 'pure types' and relations that hold between types, through an axiomatic-deductive method. Types could be thought of as 'realistic-hypothetical' since they are *real* (in conformity with Aristotelian views). The wording 'axiomatic-deductive' can be used, or it is even possible to carefully label it 'hypothetico-deductive' if one keeps in mind that this is altogether different from the later use of the term within the Vienna Circle, half-a-century later in an altogether different context of anti-metaphysical accounting for nature. Karl Menger Jr., the son of Carl, belonged to that later group. According to Carl Menger Sr., exact laws of economics *can and should* be derived logically from types both *real* and simultaneously '*pure*' when considered in isolation. For him, economists *truly* reach laws of economic phenomena starting from clear definitions. This is what the exact orientation of research is about. This results in possibly testing the produce of science against reality.<sup>10</sup>

Let us recapitulate how those views are in conformity with Aristotle. In a note on his copy of the *Nicomachean Ethics*, Menger approves of Aristotle regarding economics as *practical*: he regards this neither as *opposite*, nor as *contradictory* with his theoretical view, but *complementary per necessity*. The core of economics as a science remains the theory and there is no contradiction therein: Menger endorses the Aristotelian view that science deals with the *general*. Practical aspects are consequences that obtain from the *necessary* practical dimension of economics, where statesmen seek efficiency and need experience (for instance, Menger 1985 [1883], p. 163). Not only does Menger accept the Aristotelian view, but he goes further in terms of theoretical needs. Menger *adds* a new field of research and puts forth that modern analysis ought to deal with 'pure' economics to live up to its ambition of providing knowledge of exchange matters. Pure economics need *not* replace practical economics, but must become aware that the newly opened field for deductive analysis deals with a world of entities that are 'real' and 'typified' at the same time. These Menger called the *Realtypen*.<sup>11</sup> This view, one may (if need be) label 'hypothetical' in the sense that, in a 'pure' world, forms and laws are universally valid and stand by themselves. Yet, once set back against 'full reality' (*volle Wirklichkeit* is the German wording one commonly encounters as a distinct double with *Realität*), those laws *remain* valid—even if they may at times and naturally (in line with the Aristotelian classification) admit of exceptions, *because* they mix with other laws and in the 'full reality' they can nowhere be found in their pure forms. Menger uses the analogy of both the chemist and the gold panner looking for 'chemically pure gold': a gold-digger's dish is naturally a mix of sand, earth, etc. where the laws of chemistry actually help identify the gold. *Both* practical and theoretical approaches are needed and are actually used. The challenge lies in bridging them. Perhaps Menger said too little about that, but he opened a field to investigate *completing* (not *depleting*) the Aristotelian classification. This is *not* to say that the exact orientation of economics neither could, nor should be the *exclusive* valid form of investigation—Crespo qualified his view as he understood that. Once that has been clarified, there now remain two other bones of contention, on testing and on organicist views.

### III. TESTING THE RESULTS OF SCIENCE

If the exact orientation of theoretical research allowed only for infallible results (which cannot exist in the 'real' world), would that approach not consist in an Aristotelian conception? Crespo raises this issue. There actually is an issue with the way that Menger described deduction. Yet, Crespo turns the issue around by debating the *testing* of theoretical results. Twentieth century epistemology brought that issue up, which originated in an Austrian context. Mengerian thought comprised it half a century *before* Karl Popper fully assessed it.<sup>12</sup> In his *Investigations*, Menger already stated his views about how to test the empirical results of exact economics:

Testing the exact theory of economy by the full empirical method is simply a methodological absurdity, a failure to reckon the bases and presuppositions of exact research. [...] To want to test the pure theory of economy by experience in its full reality is a process analogous to that of the mathematician who wants to correct the principles of geometry by measuring real objects, without reflecting that the latter are indeed not identical with the magnitudes which pure geometry presumes or that every measurement of necessity implies elements of inexactitude (Menger 1985 [1883], p. 69).

Reading Menger as diametrically opposite to Aristotle, Crespo argues that “Aristotle does not have any problem in testing theories” (Crespo 2003, p. 74) and that, in the *Posterior Analytics* (where syllogism embodies scientific reasoning), Aristotle added that ‘abstract’ reasoning guarantees truth when obtained from premises themselves that are true. Yet, Crespo *also* indicates that Aristotle *seldom* used this method and that his works on ‘natural and social’ sciences favor investigations into facts, namely *induction*. Concerning biology, physics, politics or ethics, Aristotle is mostly dedicated to observing facts, as tradition has long recognized.<sup>13</sup> For instance, the *Nicomachean Ethics* relies on experience as a touchstone for the statesman and, in the *Generation of Animals*, Aristotle wrote: “credit must be given rather to observation than to theories, and to theories only if what they affirm agrees with the observed facts”. Crespo tends to regard Menger as consistent with the *Posterior Analytics*, but not with Aristotle’s actual practice of science. While Crespo later qualified his judgement on the role of theory, he could do so as well on the issue of how Menger regarded the *absurdity* of testing the theoretical *principles* as such, yet not necessarily the very testing of the results of science.

How useful is the observation of facts *according to Menger*? Lordon and Ohana (2008) set the record straight on this issue and pass a few reflections of relevance here. First, what renders the matter more difficult than it should be is to let one think that Menger would *object in principle* to observing facts. This is inaccurate. In many passages, Menger stresses their significance. He repeatedly quoted Jean-Baptiste Say: “facts as masters to us all”.<sup>14</sup> In economics, practically, it is *indispensable* to observe facts—and it is *useful as well* in orientating research.

For, along with the historical, the empirical basis for theoretical research, the experience of everyday life is surely indispensable. Or, similarly, *the observation of the singular phenomena of human economy*, must be included—the most comprehensive possible orientation of that economy, is indispensable. It is so indispensable that we cannot imagine a highly developed theory of economic phenomena without the study of the history of economy (Menger 1985 [1883], p. 117).

While Menger regards the theoretical results of exact research as *non-testable* in principle, it is not because of the *alleged* superiority of deductive analysis. Tests of the *exact* orientation are merely ‘methodological nonsense’ because it would be to study pure abstract economic worlds—that do *not* exist in *full* reality. Therefore, Menger set pure *theory* upon the following four hypotheses: 1. (economic) agents pursue exclusively their own interest; 2. agents are conscious of their goals and the ends they pursue as well as of (some) means to implement to achieve those goals; economic conditions are not fully known to agents; 3. (ignorance plays a large role); 4. no forceful restraint through coercion is (nor should be) exercised on individual liberty.

It is highly improbable that these hypotheses in reality ever fully get realized. Agents are *not* exclusively guided by their own interest, they are only partly conscious of their own goals, they know only part of the circumstances, and they may indeed suffer many types of constraints. Of course, altruism also exists, the will to abide to traditions, and customs, out of respect of social pressure. Agents act in the way they do, while *exact* research takes *exclusively* into account the ‘pure’ aspects. Tests are useless since such laws never fully obtain, though active in reality. For instance, Menger explains that even the law of supply and demand does *not always* obtain: it may be incorrectly *tested* at times.

One last argument brings together Menger and Aristotle on the issue of testing the results of science. In some fields, there is more latitude to draw on experiments than in others. Crespo extrapolated way too much from his quote from the *Generation of Animals*:

Such appears to be the truth about the generation of bees, judging from theory and from what are believed to be the facts about them; the facts, however, have not yet been sufficiently grasped; if ever they are, then credit must be given rather to observation than to theories, and to theories only if what they affirm agrees with the observed facts. A further indication that bees are produced without copulation is the fact that the brood appears small in the cells of the comb, whereas, whenever insects are generated by copulation, the parents remain united for a long time but produce quickly something of the nature of a scolex, and of a considerable size (Aristotle III, 10, 760b).

For Aristotle, credit goes more to observation than to theory in the reproduction of bees—not generally speaking. Here, he questioned less the principles from his *Posterior Analytics* than he cared to set a specific case. Menger could most certainly agree that observation is *more* appropriate than aprioristic analysis to discover how bees reproduce. Common sense helps, with no diverging methods. Nature calls for practical experiments, when the human mind is confronted by unknown domains. Menger would hold the same view. Both authors equally value induction while recognizing its limits (hence the concept of abduction in Milford 1989). Menger wrote:

The conclusion that the phenomenon C follows the phenomena A and B *in general* (that is, in all cases, even those not observed!), or that the phenomena under discussion here are *in general* co-existent, transcends experience, the point of view of strict empiricism. From the standpoint of [induction] it is not *strictly* warranted. Aristotle recognized this correctly when he denied the strictly scientific character of induction (Menger 1985 [1883], p. 57).

Aristotle and Menger share one and the same approach regarding the testing of theories. The only divergence is that Menger opens up a new path to research, one that did not exist with Aristotle (and could not, given the Ancient's premises).

#### IV. 'ORGANIC' AND 'PRAGMATIC' (IN MENGERIAN TERMS) SOCIAL STRUCTURES

Regarding *Socialgebilden* ("social representations as constructs"), Crespo again sees differences with Aristotle that simply do not exist. Some divergences, which Menger acknowledged, can be granted, but again, Menger thoroughly studied Aristotelian texts he mostly aligned with Aristotle. This appears in Book III of his *Investigations*, notably, as well as in the Appendix VII (which contains a detailed reading of the first pages of Aristotle's *Politics*).<sup>15</sup>

Menger distinguishes social structures produced by human consensus (oral agreements, explicit conventions, compacts, contracts even legislation), which he calls 'mechanical' or 'pragmatic', from social institutions unexpectedly resulting from the interplay of human action—which he calls 'organic'. These are spontaneous orders, in the sense later popularized by his spiritual heir, Friedrich von Hayek. Both kinds of representations of social constructs may serve the common good, although it obtains *without* any intention. There is no 'common will'. Institutions of this kind were *not* 'instituted', so to speak: they simply 'grew', and notably include money, language and *even* the state for that matter. Crespo argues that this analogy between institutions and organisms is *not* Aristotelian. For Crespo, what Menger explains through his analogy *can be neither* inspired by Aristotle, *nor* compatible with Aristotle, because in 'true' Aristotelianism (the definition of which is still at stake), "justice, as a general virtue, consists in taking care of the end of the society as a whole" (Crespo 2003, p. 80).

Moreover, Aristotelian teleology would dictate that what exists through conscious effort may obtain *any* intended goal—consequently, that there exists a *duty* for governing or managing authorities to perform to *facilitate* the procuration of such *common good*. Orders that come to existence by chance, brought through disordered individual actions, might lead to common good, but only by a stroke of luck and without guarantee that this could be some truly *common good*. For *good* order to obtain, citizens should *always* keep in mind such common good even though it may not be enough to achieve that goal, because any single diversion might endanger the whole effort. Therefore, an Aristotelian ‘fair’ society should aggregate all institutions that do not grow spontaneously. This was the kind of argument used by German Historicists during German nation-building and political unification—and this is precisely what Menger fought against.

Menger thought that German historicists of his time held very disputable views in general, and on Aristotle in particular. Nothing in Menger’s ‘organic’ (or ‘spontaneous’) orders contradicts Aristotelian social ethics, even if Menger indeed leaves apart any teleological view. He shows that Aristotle could be interpreted in this way as well, at least when dealing with early cities’ birth and growth (Appendix VII). Menger denounced the Historicists’ faulty, or at least unilateral, interpretations of Aristotle.<sup>16</sup>

Nowhere is it implied that as a consequence of Aristotle’s views of the common good should it *inevitably* be ‘managed’ by conscientious socio-political authorities. Perhaps one may (with Crespo) regret that, when Menger coined his terminology, he hurt the more traditional uses of the term ‘organicism’—even in some Aristotelian traditions. But Menger defined his terminology and one cannot ask for more. ‘Organic’ in Menger’s parlance comes to mean ‘spontaneous’ in the sense that Hayek would understand with respect to socio-economic analysis, which is now much in use. The Historicists understood Aristotle otherwise, but Crespo ends agreeing with us: “[i]n fact, Menger’s view is *like Aristotle’s*” (2022, p. 84, italics added). Conversely, we grant to Crespo that “the label ‘organic’ results confusing because it refers to a doctrine that is neither Aristotle’s nor Menger’s.<sup>17</sup> All this being said, the divergence is minor, were it not for a few points still deserving clarification.

Firstly, if statesmen understand that, circumstances being given, a higher common good would derive from *refraining to act*, then such *non-action* becomes *de facto* a politically *virtuous* form of *action*. The same with individuals, who understand that pursuing one’s own interest, all things considered, may lead to the general good. Here, following one’s interest is the *virtuous* action to undertake, by Aristotelian standards as well.

Secondly, the fact that some common good can be achieved only through common agreement is not demonstrated anywhere. Conversely, if one imagines that the common good is better reached through spontaneous action, then, in the very spirit of Aristotle, it could be that in some fields of human action, spontaneity is indeed fully preferable. This is a powerful argument *pro-laissez-faire*. Money is a good example: the ideal policy (for Menger) is to set free the choice of what serves as the instrument of exchange. Following their interest, citizens gradually select the most proper good: this process was later labelled a *search* process (there a voluminous literature on this). Moreover, at any time and place in history, this is precisely what happened, fitted to local circumstances and overcoming restraints otherwise imposed. All tends to achieve the highest degree of ‘marketability’ (or ‘saleability’/*Absatzfähigkeit*) and markets tend to work, as long as they are not prevented from this. Even when violently coerced (perhaps even more then), agents only keep in mind self-interest. But even while they do so,<sup>18</sup> their interplay leads to *some* common good (if *not* always to equilibrium) once they are set free: their action can thus be regarded in turn as *virtuous*.

Conversely, would Aristotelian views be fully immune to a theory endorsing the notion of individualistic spontaneity? Or is it merely in the German Historicists’ account of Aristotelian views that the difficulty surfaces? Menger’s answer is clear: Historicists interpreted Aristotle for their own benefit. Yet, instead of merely rejecting their misappropriated use of the Ancient, Menger reversed the argument. To do that, he explained the texts, which in turn provided evidence in his favor. This is notably shown in the aforementioned Appendix VII, although we cannot retrace the full line of reasoning here (for a step-by-step analysis see Campagnolo 2010, pp. 239-247). And Menger’s view clearly shows the falsity of the German Historicists’ received interpretation of the Aristotelian phrase “man as a political animal”. Menger took their view to

task through a careful examination of the way Aristotle displayed the birth of communities as a spontaneous process of gradual growth through the interplay of individual agents. Aristotle appears as providing a quasi-‘evolutionist’ (not holistic) view of institutions. Aristotle was not supporting ‘holism’, neither in the sense assigned to him by the authors in the German Historical School, nor in a Scholastic or Thomistic sense (which we believe that Crespo may have in mind).

Last, Menger contradicts Aristotle’s ethics even less when one considers how carefully Menger always expressed himself: he did *not* support the idea that spontaneous orders would be the *exclusive* mode of establishing government. Both in the *Principles* (1871) and in the *Investigations* (1883), he consistently stressed that some institutions are *not* spontaneously ordered. This significant point is a real difference with some of his heirs, especially some disciples of Ludwig von Mises.<sup>19</sup> Where Hayek clearly exhibited a *preference* for spontaneous orders (regarding efficiency, reliability and lesser constraints than any other kind of society), Menger only indicated what indeed generally exists. Therefore, Menger could and would build on an Aristotelian base, which later theorists could dispense with.

In conclusion, let us add that this debate on Menger’s Aristotelianism is still worth raising as it is representative of the high value of the field of economic philosophy. Crespo raised worthy issues, although his own views on Aristotle made him partly miss how deeply Menger’s views were infused with Menger’s own understanding of Aristotle’s works. Menger was indeed Aristotelian. Granted, neither ‘entirely’, nor ‘generally’ nor ‘strictly’ (all terms used by Crespo), which of course could not be the case. But Menger was deeply informed and truly influenced by the Ancient. Thus, Menger was Aristotelian in terms of the analysis of the previous pages.

Finally, if this obvious trait was initially felt by most commentators, what is gained from our exchange, is to insist on a stricter definition and serious evidence. Menger used extremely powerful and valuable conceptual devices provided by Aristotle and he did so in order to develop new paths. But even here, this was probably because Menger knew Aristotle’s works well. It was his essential source in philosophy but by no means the sole source (see Menger and British thought in Campagnolo 2010, pp. 254-285). If there is little sense for scholars to nowadays summon Aristotle as an authority, bringing this connection to light may remain useful, especially when one realizes how contemporary economists have forgotten or remained impervious to his philosophical lessons. There is more in Menger than ‘just economics’ and, as with Aristotle, one finds hints at a kind of economic philosophy.<sup>20</sup>

## NOTES

- 1 See Crespo 2022; 2003, pp. 63-84. Our present rejoinder answers both texts on the basis of (Campagnolo and Lordon 2011) with additions by Campagnolo responding to Crespo’s move. Crespo (2006) also wrote accounts about the ontological nature of *oikonomike* and Aristotle’s concept of science and *oikonomike* as science (Crespo 2014). The three points discussed here are most explicit in (Crespo 2003, 2022).
- 2 There is one major exception with Menger’s son, Karl Menger (1902-1985), who said the opposite (quoted in Crespo 2022). Menger’s son was himself certainly non-Aristotelian in line with the members of the Vienna Circle he was acquainted with in Interwar Vienna. Our position is that the son tended to interpret his father’s works in a way that was somewhat removed from the times and views of his father. Crespo (2022) too rebukes this view. As far as we are concerned, when discussing Carl Menger’s ideas, we exclusively discuss his original texts. Another noticeable judgment stating that Menger was “non-Aristotelian” is found in a letter that Hayek sent to Menger Jr. in which Hayek described “Carl Menger as anti-Aristotelian as possible”. Our understanding is that, on the one hand, Hayek knew the son’s stand and possibly intend to show support, while, on the other hand, and most importantly, he probably had in mind only Menger’s rejection of the idea of “exchange of equivalents” (again, see Crespo 2022, part I). As to the son’s criticism of the work by Emil Kauder, we deem it undue, since Kauder ac-

cessed many archives that the son had not been able to use (as his mother had sold them to a Japanese university, to survive after the father's death in 1921).

- 3 "The error of regarding the quantities of goods in an exchange as equivalents was made as early as Aristotle, who says [Menger quotes Aristotle *where he judges Aristotle was wrong*]: 'To have more than one's own is called gaining and to have less than one's original share is called losing, e.g., in buying and selling ... but when they get neither more nor less but just what belongs to themselves, they say that they have their own and that they neither lose nor gain' [...] 'If, first, there is proportionate equality of goods, and then reciprocal action takes place, the result we mention will be effected. And this proportion will not be effected unless the goods are somehow equal' (*Nicomachean Ethics*, V, 1132b, 13–18 and 1133a, 10–26)" (Menger 1871 [1950], p. 305).
- 4 Here is one example where Menger comments and judges Aristotle *wrong* (altogether with the modern German historicists, here referred to as "those writers"): "Aristotle, in a much quoted passage, says that money originated by convention, not by nature but by law (*Nicomachean Ethics*, V, 1133a, 29–32). He [Aristotle] expresses this view even more distinctly in his *Politics*, where he says that 'men agreed to employ in their dealings with each other something . . . for example iron, silver, and the like', and offers this as his explanation of the origin of money (I, 9. 1257a, 36–40). [...] Summarizing the course followed by the investigations of those writers, they almost always begin by showing the difficulties to trade arising from pure barter. They show how it is possible to remove these difficulties by introducing money. In the further course of their arguments, they stress the special suitability of precious metals to serve as money, and finally, citing Aristotle, they reach the conclusion that precious metals actually became money by human legislation" (Menger 1871 [1950], pp. 315–317).
- 5 The copy of the original edition of the *Grundsätze* that is marked #3 and found at the Center for Western Social Sciences (Hitotsubashi University) is especially significant. Two other copies are at Duke University.
- 6 This volume also included an Appendix with the first two of the three pieces on economics attributed to Aristotle and later known to be apocryphal (*Ökonomik. Ein Fragment*).
- 7 Campagnolo (2009, pp. 729–738; 2020, pp. 775–802) compiled a name index of thinkers quoted by Menger and a list of the volumes from his library to which Menger refers in general—and especially with regard to Aristotle.
- 8 See notably Kauder (1959, 1961), Caldwell (1990), Yagi (1993), Hagemann, Ikeda and Nishizawa (2010), Schumacher and Scheall (2018), Campagnolo (2002, 2008, 2010, 2012, 2020).
- 9 However, one should not blur the line between Menger and the German school. Erich Streissler attempted to demonstrate that theoretical parts in Menger's *Principles* derived from the reception of Adam Smith works in German. Chipman (2014) dissected the issue, but Streissler linked his analysis to the fate of the Austro-Hungary empire defeated by Bismarck. While reflections upon value are at the core of the *Principles*, they relate more to Menger's Aristotelianism than to German economics, with some notions inevitably shared. Austrian economists, notably Joseph Schumpeter, claimed strong Austrian independence, as the 'Dispute over Methods' proved enough.
- 10 Therefore, Menger *did not* support a version of 'apriorism' that would ignore facts (a hallmark of some later Austrians)—see (Lordon and Ohana 2008). Regarding another remark often debated as regards the treatment of so-called reality: the clarity of *mathematical* axioms is still another issue since Menger opposes the use of mathematics as being 'too static'. Conceptual accuracy and mathematical formalization are not equivalent (though they may overlap): that is one more Aristotelian trait, since the world of mathematical ideal figures, that differs widely from real constituents of the world.
- 11 While Max Weber would later call analogous scientific constructs *Idealtypen*, the heuristic idea is similar.
- 12 Popper's youth writings in Vienna (1925–1935) are useful to understand that. They exist in the original German and in French (tr. and ed. Campagnolo 2019). To this day, no English translation exists.
- 13 Tradition famously depicts Plato as pointing to a starry sky of Ideas, while Aristotle looks down upon earthly matters.
- 14 In the original: "*les faits sont nos maîtres à tous*", *passim* in Menger's notes (Campagnolo 2009, p. 64).
- 15 The full title of this appendix is as follows: "On the Opinion attributed to Aristotle that the Emergence of the State was given at its Origins altogether with the Existence of Man" (this re-translation into English is in line with our full-translation in French: see Campagnolo 2011/1883).

16 Menger (1883, pp. 269-70) wrote: "He [Aristotle] does not deny in anyway that early un-civilized men existed who already tended so [to socialize], yet without yet reaching the stage of building a state [...] The often quoted expression by Aristotle 'anthropos dzoion politikon' ("Human beings are political animals") shows neither that men must by need have always existed within the frame of a state nor that the latter be as old as human beings themselves". Menger commented that, according to all philological appearance, it goes reverse: human beings were already living, exchanging, trading before any institution had emerged, or institutions emerged thanks to pre-existing activities (our translation).

17 See Crespo's paper in this volume and Menger (1985 [1883], p. 149), and the Appendix VII, of the latter in particular.

18 On money see Menger's 1871 *Principles*, chapter 8, as well as his 1892 essays in German (1909/2002), English (Menger 1892) and French (Menger 1892/2005) and comments (Streissler 2002 and Campagnolo 2005).

19 However, and despite all divergences that may be pointed out, among among the so-called 'American Austrians' (which for reasons of space cannot be gone into here), it should be mentioned how well Murray Rothbard described Aristotle's influence on Menger (Rothbard 1976). Whether this relates in anyway Aristotelian and libertarian readings is an altogether other matter.

20 This work was supported by the French National Research Agency Grant ANR-17-EURE-0020, and by the Excellence Initiative of Aix-Marseille University - A\*MIDEX.

## REFERENCES

Aristotle. 1984. *The Complete Works of Aristotle. The Revised Oxford Translation*. J. Barnes (ed.). Princeton: Princeton University Press.

\_\_\_\_\_. 1962. *Nicomachean Ethics*. Tr. Ostwald, M. London: Macmillan.

\_\_\_\_\_. 1856. *Nikomakische Ethik*. German tr. Riedler. In: *Aristoteles Werke, Schriften zur praktischen Philosophie*. Stuttgart: Offander.

\_\_\_\_\_. 1958. *Politics*. Tr. E. Barker. Oxford: Oxford University Press.

Bostaph, S. 1978. The Methodological Debate between Carl Menger and the German Historicists. *Atlantic Economic Journal*, VI (3): 3-16.

Caldwell, B. 1990. (ed.). *Carl Menger and his Legacy in Economics. History of Political Economy* (supplement 22). Durham: Duke University Press.

Campagnolo, G. 2002. Une source philosophique de la pensée économique de Carl Menger: l'*Éthique à Nicomaque* d'Aristote. *Revue de philosophie économique*, 3(2): 5-35.

\_\_\_\_\_. 2005. Money as Measure of Value. An English Presentation. *History of Political Economy*, 37(2): 233-261.

\_\_\_\_\_. (ed.). 2008. *Carl Menger: Discussed on the Basis of New Findings*. Francfort/Main: Peter Lang.

\_\_\_\_\_. 2009. Origins of Menger's Thought in French Liberal Economists. *Review of Austrian Economics*, 22(1): 53-79.

\_\_\_\_\_. 2010. *Criticisms of Classical Political Economy: Menger, Austrian Economics and the German Historical School*. London: Routledge.

\_\_\_\_\_. 2011. *Recherches sur la méthode dans les sciences sociales et en économie politique en particulier*. French tr. G. Campagnolo of (Menger 1883). Paris: Éditions de l'EHESS.

\_\_\_\_\_. 2012. Deutsche Archive in Japan und das Beispiel: Carl Menger und sein Verständnis der *Nikomachischen Ethik* des Aristoteles. In Kurz, H. (Ed.), *Der Einfluss Deutschsprachigen Wirtschaftswissenschaftlichen Denkens in Japan*, pp. 131-177. Berlin: Duncker & Humblot.

\_\_\_\_\_. 2019. *Karl R. Popper. Apprentissage et découverte. Écrits de jeunesse (Vienne, 1925-1935)*. French tr. G. Campagnolo of Popper's youth writings. Paris: Editions Rue d'Ulm.

\_\_\_\_\_. 2020. *Principes d'économie politique*. French tr. G. Campagnolo of (Menger 1871). Paris: Le Seuil.

Campagnolo, G. and Lagueux, M. 2004. Les rapports d'échange selon Aristote. *Éthique à Nicomaque* V et VIII-IX. *Dialogues*, XLIII (3): 443-469.

Campagnolo, G. and Lordon, A. 2011. Menger était-il aristotélicien ? Nouvelles réflexions à l'occasion d'une réponse à Ricardo F. Crespo. In: G. Campagnolo (ed.). *Existe-t-il une doctrine Menger?* pp. 45-74. Aix-en-Provence: Publications Universitaires de Provence.

Chipman, J. 2014. *German Utility Theory: Analyses and Translations*. Abingdon: Routledge.

Crespo, R. F. 2003. Three Arguments against Menger's Suggested Aristotelianism. *Journal des Économistes et des Études Humaines*, 13(1): 63-84. Eng. tr. 2009. *The Berkeley Electronic Press*, 13(1): 3

\_\_\_\_\_. 2006. The Ontology of 'the Economic': an Aristotelian Perspective. *Cambridge Journal of Economics*, 30(5): 765-781.

\_\_\_\_\_. 2014. *A Re-Assessment of Aristotle's Economic Thought*. Abingdon: Routledge.

\_\_\_\_\_. 2022. Was Carl Menger Aristotelian? *Cosmos + Taxis* 10(5+6): 75-87.

Hagemann, H., Ikeda, Y. and Nishizawa, T. (eds). 2010. *Austrian Economics in Transition. From Carl Menger to Friedrich Hayek*. London: Palgrave.

Hands, W. 2001. *Reflection without Rules*. Cambridge: Cambridge University Press.

Kauder, E. 1953. Genesis of the Marginal Utility Theory: From Aristotle to the End of the Eighteenth Century. *Economic Journal*, 63: 638-650.

\_\_\_\_\_. 1957. Intellectual and Political Roots of the Older Austrian School. *Zeitschrift für Nationalökonomie*, 17(4): 411-25.

\_\_\_\_\_. 1959. Menger and his Library. *Economic Review*, 10(1): 58-64.

\_\_\_\_\_. 1961. Freedom and Economic Theory: Second Research Report on Menger's Unpublished Paper. *Hitotsubashi Journal of Economics*, 2(1): 67-82.

\_\_\_\_\_. 1962. Aus Mengers Nachgelassenen Papieren. *Weltwirtschaftliches Archiv*, 89: 1-28.

Kraus, O. 1905. Die aristotelische Werttheorie in ihren Beziehungen zu den Lehren der moderner Psychologenschule. *Zeitschrift für die gesamte Staatswissenschaft*.

Lawson, T. 1997. *Economics and Reality*. London: Routledge.

Lordon, A and Ohana, M. 2008. Empirical Studies and Mengerian Methodology. In: G. Campagnolo (ed.). *Carl Menger. Discussed on the Basis of New Findings*, pp. 201-216. Francfort/Main: Peter Lang Verlag.

MacIntyre, A. 1981. *After Virtue*. Notre Dame: University of Notre Dame Press.

Mäki, U. 1990a. Mengerian economics in realist perspective. In: B. Caldwell (ed.). *Carl Menger and his legacy in economics*, pp. 289-310. Durham: Duke University Press.

\_\_\_\_\_. 1990b. Scientific realism and Austrian explanation. *Review of Political Economy*, 2(3): 310-44.

\_\_\_\_\_. 1997. Universals and the *Methodenstreit*: a Re-examination of Carl Menger's Conception of Economics as an Exact Science. *Studies in History and Philosophy of Science*, 28(3): 475-495.

Menger, C. [1871] 1950. *Principles of Economics*. Tr. J. Dingwall and B. Hoselitz. Glencoe: The Free Press.

\_\_\_\_\_. [1883] 1985. *Investigations into the Method of the Social Sciences with Special Reference to Economics*. Tr. F. Nock. In: L. Schneider (ed.). New York, New York University Press.

\_\_\_\_\_. 1884. *Die Irrtümer des deutschen Historismus*. Vienna: Alfred Hölder.

\_\_\_\_\_. 1889. Grundzüge einer Klassifikation der Wirtschaftswissenschaften. *Jahrbücher für Nationalökonomie und Statistik*. XIX: 1-32. (Rep. in Mengers *Gesammelte Werke* III: 185-218).

\_\_\_\_\_. 1892. On the Origin of Money. *Economic Journal*, II(6): 239-255.

\_\_\_\_\_. [1892] 2005. La monnaie mesure de valeur, *Revue d'économie politique*, 6: 159-175. Tr. G. Campagnolo. *History of Political Economy*, 37(2): 245-261.

\_\_\_\_\_. [1899] 1960. Grundzüge einer Klassifikation der Wirtschaftswissenschaften. *Jahrbücher für Nationalökonomie und Statistik* XIX: 465-496. Tr. L. Sommer. Towards a Systematic Classification of Economic Sciences. In: L. Sommer (ed.) *Essays in European Economic Thought*, pp. 1-38. Princeton: D. van Nostrand.

\_\_\_\_\_. [1909] 2002. Geld. *Handwörterbuch der Staatswissenschaften*, pp. 555-610. Tr. M. Streissler and L. Yeager as "Money" by C. Menger. In: M. Latzer and S. Schmitz (eds.). *Carl Menger and the Evolution of Payments Systems*, pp. 25-115. Cheltenham, Elgar.

Milford, K. 1989. Zu den Lösungsversuchen des Induktionsproblems und des Abgrenzungs-problems bei Carl Menger. Vienna: Verlag der Österreichischen Akademie der Wissenschaften.

\_\_\_\_\_. 1992. Nationalism, *Volksgeist*, and the methods of economics: A note on Ranke, Roscher and Menger. *History of European Ideas* 15(1-3): 163-170.

\_\_\_\_\_. 2008. Carl Menger und die Ursprünge der Österreichischen Schule der National-ökonomie. In: R. Neck (ed): *Die Österreichische Schule der Nationalökonomie*, pp. 25-64. Francfort/Main: Peter Lang.

Rothbard, M. 1976. New Light on the Prehistory of Austrian Economics. In: E. Dolan (ed.) *The Foundations of Modern Austrian Economics*, pp. 52-74. Kansas City: Sheed & Ward.

Scheall, S. and Schumacher, R. 2018. Karl Menger as Son of Carl Menger. *History of Political Economy*, 50(4): 649-678.

Smith, B. 1990. Aristotle, Menger, Mises: an essay in the metaphysics of economics. In: N. Caldwell (ed.) *Carl Menger and his legacy in economics*, pp. 263-288. Durham and London: Duke University Press.

\_\_\_\_\_. 1994. Aristotelianism, apriorism, essentialism. In: P. Boettke (ed.), *The Elgar Companion to Austrian Economics*, pp. 33-7. Cheltenham: Elgar.

Streissler, E. 2002. Carl Menger's article "Money" in the History of economic Thought. In: M. Latzer and S. Schmitz (eds.), *Carl Menger and the Evolution of Payments Systems*, pp. 11-24. Cheltenham: Elgar.

Yagi, K. 1993. Carl Menger's *Grundsätze* in the making. *History of Political Economy*, 25(4): 697-724.



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