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KARL KNIES AND THE PREHISTORY OF NEOCLASSICAL ECONOMICS: UNDERSTANDING THE IMPORTANCE OF "*DIE NATIONALOEKONOMISCHE LEHRE VOM WERTH*" (1855)

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This essay serves as the introduction to the authors' translation of Karl Knies' essay "Die nationaloekonomische Lehre vom Werth" (1855). Knies is one of the acknowledged founders of the Older German Historical School, and yet in recent years several writers have described his 1855 essay as seminal in the evolution of marginal utility analysis. The authors examine how Knies develops his nascent theory of marginal reasoning in his essay, arguing that rather than cling to his earlier historicist programmatic, Knies attempts to discover general laws; however, not by strict causal analysis but by a typical 'German art' of taxonomy and classification that resembles juridical argumentations. This results in an ambiguous text, which influenced several marginalist pioneers who studied under Knies at Heidelberg (including Eugen von Böhm-Bawerk, Friedrich von Wieser, and John Bates Clark), as well as several members of the Younger German Historical School (including Gustav von Schmoller).

I. INTRODUCTION

An inspection of the work of Karl Knies, one of the three founders of the Older German Historical School,[1] can provide the scholar of the history of economic thought with valuable insights regarding the relationship of the Older German Historical School to the emergence of neoclassical theory. Traditionally, scholarship

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[1]Wilhelm G.F. Roscher (1817–1894) and Bruno Hildebrand (1812–1878) are regarded as the other two founders of the German Historical School.

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in the history of economic thought has ignored any connection between these two schools of economic thought, attributing the roots of neoclassicism in the ''Marginalist Revolution'' to the individual efforts of several well-known economists (Walras, Menger, and Jevons), each of whose work was undertaken independently of the others. Recent studies, however, have clearly established the relationship between the German Historical School and the emergence of the analytical constructs of marginal utility analysis; these studies have shown, in particular, that marginal utility analysis has roots in the Older German Historical School. As John Chipman (2005, p. 197) says, ''The writings of Rau (1847), Hildebrand (1848), and Roscher (1854) stimulated a brilliant article by Knies (1855).'' Karl Knies thus belongs to the group of economists who had used the concept of marginal utility prior to the emergence of the Marginalist Revolution, and who had an influence on several of the individuals who eventually helped to develop and popularize marginalism. Knies' emphasis on subjective utility, his arduous attempt to solve the conflict between value in use and value in exchange, and his implicit use of the law of diminishing marginal utility are all key in his influence on Carl Menger, Eugen von Böhm-Bawerk, Friedrich von Wieser, and John Bates Clark—the latter three of whom studied under Knies at Heidelberg.[2] Finally, as one examines Knies' work, one can distinguish the ambiguities and tensions that remained unresolved in his writing, but did, however, open room for his successors to enter the field and present their own solutions, using the tools they had acquired from their German teacher.

The interpretation we offer here both complements and differs from the recent contribution of the distinguished economic theorist John Chipman (2005) to the literature on the German contributions to the emergence of marginal utility theory. There is no more extensive and thorough treatment of marginal utility analysis in nineteenth-century Germany than Chipman's essay, which he wrote to elaborate upon and critique Erich Streissler's (1990) earlier examination of the same literature. Chipman has traced the thread of marginal utility analysis from early in nineteenth-century Germany through Hildebrand, Rau, Roscher, and Knies. He finishes his essay with several other German theorists who wrote after Knies, and concludes with a discussion of Wieser and Böhm-Bawerk, Knies' two most well-known Austrian students.

Our argument complements Chipman's in the sense that we are indebted to his clarification of the depth of the German explorations of marginal utility theory and especially to his demonstration (for the first time in English) of how Hildebrand, Rau, and Roscher shared ideas and drew from each other's work.[3] There is no better explanation of how these German theorists—who are usually treated together for their nationalism and their interest in developing historical economics—actually were

[2]Bateman (2004) discusses the general influence of Knies on some of the American economists who studied under him, including Richard T. Ely and John Bates Clark, although he does not mention ''*Die nationalokonomische Lehre vom Werth*'' in particular. The great American economist E.R.A. Seligman also studied with Knies at Heidelberg.

[3]Our translation was completed in 2004, before Chipman's essay had appeared in print. Likewise, this introductory essay was finished in 2006, before we knew of Chipman's essay. But his essay will be the seminal interpretation of the older Historical School's work on marginalist ideas and so we believe that it is necessary to clarify the ways that our own translation and interpretation of the essay fit with Chipman's work.

quite theoretically sophisticated.[4] In general, we were gratified to find many similarities between our translation and passages from Knies' essay that Chipman translates in his essay.

We differ from Chipman, however, in believing that much of the ambiguity that generations of others have seen in Knies' work is exactly that: a fundamental ambiguity. Whereas Chipman creates a ''rational reconstruction'' of Knies in a modern mathematical formulation, and thereby removes (or clarifies) much of the ambiguity from his famous 1855 essay, we argue that Knies did not have as much clarity in his argument as Chipman's formulation attributes to him.[5] One of the anonymous referees of an earlier version of this essay said, in reference to Knies' 1855 essay, that rather than ''cling'' to his earlier ''historicist programmatic,'' Knies ''attempts to discover general laws: however, not by strict causal analysis but by a typical 'German art' of taxonomy and classification which resembles juridical argumentations: quite illuminating but also tiring. Conventionally, this might be seen a part of an 'inductive' method, but it is quite different from modern procedures in empirical social science.'' We would argue that this very well captures a large part of the reason for Knies' ambiguity.

When we read Knies' essay, we do not see an imperfectly stated mathematical vision of marginal utility analysis. Rather, we see someone who is examining different cases of human consumption and the use of goods, and is trying to categorize and explain what he sees using the inchoate framework of utility analysis he had inherited from his compatriots. As Jun Kobayashi (2002) claims, Knies argued by a system of analogy, and that system was, as our anonymous referee argues, a matter of juridical examination, looking for similarities and differences in actual cases. Knies was a good-enough mathematician to have written a sophisticated argument in 1850 that statistics should be made a separate discipline from social analysis based on mathematical techniques. If he had had a clear mathematical formulation of marginal utility theory in his mind, he could have easily represented it for his readers. Rather, we argue, Knies was engaged in a different kind of inductive and social inquiry in his essay. Trying to reduce it to a ''lost mathematical model'' both robs it of some part of its historical nature and certainly misses why Knies' students (and others) found the work to be so fecund, evocative, and generative of further advances. In his earnest effort to examine the taxonomy of utility calculations and to provide a classification system for the many types of utility he identified, Knies made many profound and original discoveries. We argue, however, that, in the end, he appears to have influenced two diametrically opposed schools of thought (the early marginalists and the Younger Historical School), so much so that each decided to express fervently one of the two streams of thought present in his work, each school from its own side; a conflict made possible by the fact that Knies himself saw these streams working together and so did not attempt a final and ultimate choice between the two in his essay.

[4]We also agree with Chipman that Streissler's use of ''marginal utility'' as the translation of ''*Quotegebrauchswerth*'' (portion-use-value) is not perhaps optimal.

[5]See especially equation (15) in Chipman (2005, p. 199), which attributes a log linear utility function to Knies in order to clarify his meaning.

In the end, it would be difficult to say that either argument (Chipman's or ours) about Knies is absolutely correct, for the simple reason that he was such a poor writer.[6] In the penultimate section of this essay, we present long quotations from two of Knies' ardent admirers, who nonetheless attest to the fact that he was not a good prose stylist. It could be, and perhaps should be, accepted that the poor quality of Knies' writing will make it forever impossible to know exactly what he meant to say. His prose style certainly made it difficult to make a clear translation of his essay. We certainly do not mean to say that ''rational reconstructions'' are an illegitimate form of studying the history of economic thought.[7] Sometimes, a mathematical reformulation of an earlier economic argument can help us to see much about the texture and thrust of that argument. But in this case, we offer a translation and an argument that are based on a different understanding of Knies' intent from Chipman's understanding of it. We do so in humility, but from a deep belief that our interpretation offers a rich and historically consistent interpretation of why Knies' 1855 essay offered so many apparently unsolved puzzles for others, and how that fundamental ambiguity was able to play a central, little understood, role in the evolution of marginal utility theory.

II. KARL KNIES

Although the standard accounts of Karl Gustav Adolf Knies' life (1821–1898) do not vary much in content or tone, he is still a somewhat elusive figure.[8] The facts of his life are straightforward. Born in Marburg in 1821, Knies studied history and political science there and was appointed a lecturer after finishing his studies. He became active as a political liberal, and this activity led to his self-imposed exile to Switzerland in 1848 after he was denied a teaching appointment following the failure of the revolution. While in Switzerland, Knies supported himself by teaching at the technical college at Schaffhausen; he also wrote two of his most well-known works while he was in Switzerland*: Die Statistick als selbständige Wissenschaft* (1850) and *Die politische Ökonomie vom Standpunkt der geschichtlichen Methode* (1853). His success at writing while he was in exile was not the result of an easy life, but rather the converse; he lived under real hardship in Switzerland and his scholarly output in those years represents a triumph of his spirit.

Upon his return to Germany in 1855, he became involved in politics once again, and was elected to the Diet of Baden (1861–1865), where he was a leader in educational reform. He failed, however, in his push to have the local schools removed from the control of the Catholic Church. As a result, he withdrew from politics and took the chair in political economy at Heidelberg in 1865, the position he held until his retirement in 1896.

[6]Chipman (2005, p. 200) agrees that Knies is a poor writer, noting that he ''muddies the water with some perplexing statements.'' Chipman (2005, p. 198) also quotes Maurice Block as saying of Knies' writing that ''Mr. Knies does not sparkle with clarity.''

[7]A.M.C. Waterman (2003) offers a compelling defence of rational reconstructions as a means of studying the history of economic thought.

[8]The standard obituary, in English, would be Gustav Cohn (1899); the two standard modern references are Bertram Schefold (1987) and Herbert Kisch (1968).

But if the facts of his life are straightforward, his ideas are rich and complex. On the one hand, Knies was one of the founders of the Older German Historical School. He was immensely influential on Max Weber, and also educated some of the leading nineteenth-century figures in both Austrian and American economics: Friedrich von Wieser, Eugen von Böhm-Bawerk, E.R. A. Seligman, Richard T. Ely, and John Bates Clark. He was highly influential on the work of Carl Menger and was also one of the only German economists who treated Marx's work seriously (he was deeply critical of Marx's theory of value for ignoring value in use). His work on statistics, which argues for separate, mathematically based statistics (1850), was heavily criticized at the time of publication, but then became a standard reference during his own lifetime. He was a great and nuanced economic methodologist, and his own greatest achievements as an economist were in money and banking (1873, 1874, 1879).

The abiding mystery of his work, however, is that while he was a founder of the Older Historical School, he was also a path breaker in the early exploration of marginal utility theory, and his own economic analysis did not exhibit the type of careful historical analysis that he so brilliantly advocated. Speaking in 1885 before the Section F of the British Association, Henry Sidgwick said,

> When Knies, for instance, is discussing the nature and function of capital, money, and credit . . . the lenders and borrowers, whose operations are contemplated, exhibit throughout the familiar features of the old economic man . . . we find everywhere the old economic motives assumed and the old method unhesitatingly applied. The proof of the pudding . . . is in the eating; but our historical friends make no attempt to set before us the new economic pudding which their large phrases seemed to promise. It is only the old pudding with a little more ethical sauce and a little more garnish of historical illustrations(cited in Kisch 1968, p. 423).

But Sidgwick's charge cannot be taken as a claim of hypocrisy. Knies clearly meant what he said in his advocacy of an historical approach to economic analysis. He and his fellow travelers were loyal German nationalists and they did not believe in the cosmopolitan approach and universal assumptions of Ricardian (or Smithian) economic theory. Rather, it would seem that Knies was unable himself to carry out the kind of "ground up" inductive work he advocated. And likewise, as is clear in his nuanced effort to consider marginal utility analysis, he was not unwilling to consider the structures of "universalist" economic theory. In fact, his highly influential 1855 essay represents his deep dedication to scholarly work and his own historicism; he considers the idea of utility calculations from a juridical, local stance to see how it might arise in different national circumstances. If nothing else, Knies was open minded, while still remaining true to his own presuppositions, in this early masterpiece.

III. A REVIEW OF THE LITERATURE

The literature of economic thought has only recently begun to place much emphasis on the economists who introduced the fundamental concepts of marginal utility theory prior to the Marginalist Revolution at the end of the nineteenth century. Streissler (1990) and Ekelund and Hebert (2002) have shown that neoclassical

concepts had existed well before the coming of Walras, Menger, and Jevons, listing Knies as one of those ''proto-neoclassical economists.'' One can see clear links to Knies, for example, when examining Menger's comments on Knies' methodology, where the Austrian founder of marginalism presents his objections to Knies' work, while at the same time he praises its achievements compared to the methodological approaches of other historical economists.[9] Moreover, Joseph Schumpeter's ''historical sketch'' in *Economic Doctrine and Method* (1954) outlines what the author considers to be the greatest contributions of the Older Historical School to the science of economics and how those contributions assisted the further development of the discipline, including the rise of marginalism. Finally, a recent study by Jun Kobayashi (2001) reveals the ambiguities prevailing in Knies' methodological framework with respect to the use of analogies instead of universal laws as analytical tools of economics, and this bears directly on both the novelty and the limits of Knies' discussion of marginal utility.

In his attempt to annihilate the ''myth'' that Menger and the Austrian School ''elaborated their novel insights independently and in actual contrast to German economics of their day,'' Erich Streissler endeavors to display Menger's close intellectual ties to the German tradition of economic thought (Streissler 1990, p. 31). Streissler accuses Schumpeter of underrating the significance of nineteenth-century German economists due to political and nationalistic motives, characterizing him as ''vehemently Anglophile and markedly anti-German'' (Streissler, p. 40). While this judgment on Schumpeter's motives is difficult to evaluate, we can, nonetheless, focus on how Streissler makes his argument that the roots of marginal theory lie in the teachings of nineteenth-century century German economics.

He begins by portraying the treatment of subjective utility as a central theme in the tradition of German economic thought, and simultaneously as the foundation for Menger's development of marginal utility theory. As a first proof, he provides the fact that Menger cited predominantly German economists in his *Principles of Economics*, Roscher and Knies, the founders of the Historical School, and that these two rank on the top of the list of authors cited by Menger.[10] In his elaborate explanation of marginalist thought in German economics, Streissler presents three significant citations of ''*Die nationaloekonomische Lehre vom Werth*,'' where Knies uses the concepts of subjective utility and diminishing marginal utility. He demonstrates how subjective utility plays a central role for Knies' analysis by citing Knies' precondition for exchange that ''exchange takes place not because two quantities of two kinds of goods are equal, but because they are on both sides in opposite ways esteemed unequal'' (Streissler 1990, pp. 43–44; Knies, 1855, p. 467). Secondly, he locates Knies' use of diminishing marginal utility in the notion that Knies shared with Hildebrand about the process of production: the further increase of a quantity of

[9]Lionel Robbins' L.S.E. lectures in the history of economic thought offer a similar assessment of Knies and the Older German Historical School. Robbins, who read German, and who used to read aloud from German texts to his classes in London in order to make a point, praised the Older School for its sophistication compared to the Younger School. Later, however, when he considers Carl Menger's work, he does not mention Knies as a predecessor.

[10]Roscher was the most cited author with seventeen quotations, while Knies was quoted ten times in the book (Streissler, p. 34)

a good will result in the decrease of the individual's marginal utility for the additional units produced (Streissler, p. 44). Finally, Streissler mentions Knies' work with regard to how German economists combined supply and demand when discussing utility and prices, as in the case where Knies argued that ''value and price moved in the same direction, 'value' being identified by all Germans since Rau with utility'' (Streissler, p. 49).

With this evidence, Streissler makes a compelling argument for placing Knies in the list of German ''proto-neoclassical'' economists, to whom marginal thinking was not an unfamiliar concept at all, and who created the formative tools that Menger later gathered and used to build his theory. In addition, Streissler points out the fact (Streissler 1990, p. 44) that in his ''frequently cited central article on the theory of value,'' ''*Die nationaloekonomische Lehre vom Werth.*'' Knies directly refers to marginal utility by using the word ''*Quotegebrauchswerth*'' (Streissler, p. 49).[11]

Chipman's (2005) essay digs deeper into the texts Streissler discusses, and adds others to his list. He shows unequivocally how the idea of marginal utility emerged in German economic thought and how the main figures shared ideas and developed each other's concerns. There can be no doubt, after reading Chipman's essay, that many Germans were active before Jevons, Menger, and Walras, examining and trying to analyze the nature of utility and its impact on decision making.

In an essay on ''The Origins of Neoclassical Economics'' (2001), Robert B. Ekelund Jr. and Robert F. Hebert attempt to make a more comprehensive account of the precursors of neoclassical theory. They do not limit themselves to the German tradition, but also make reference to scholars from France, Italy, and Britain who preceded Walras, Jevons, and Menger, and had employed theoretical devices that later consisted of the fundamental elements of neoclassical theory. The first part of the study by Ekelund and Hebert aims at proving that the ''legend ... that neoclassical economics experienced a tripartite immaculate conception around 1870 cannot stand'' (Ekelund and Hebert, p. 198). Like Streissler, they mention a number of German authors who used marginalist ideas in their writings, such as Roscher, Mangoldt, Gossen, and Mischler. They do not fail to include Karl Knies in this list, attributing to him the task of ''put[ting] the principle of diminishing marginal utility at the core of value theory'' (Ekelund and Hebert, p. 201), without, however, making further mention about the German scholar. Ekelund and Hebert thus do not add much insight to our knowledge of Knies—apart from the fact that they place him in a more international setting—since the two co-authors appear to echo Streissler.

As we have seen, both Streissler and Ekelund and Hebert direct their analyses at debunking the conventional belief that neoclassical theory suddenly emerged in Europe with the absence of any obvious precursors, ''as if out of another world—unexplainable and uncaused—Menger, Böhm-Bawerk, and Wieser surfaced in the social economics of that day,'' as Streissler quotes Schumpeter to have said in an article in memory of Menger's seventy-fifth birthday in 1915 (Streissler 1990, p. 31).

However, it may be a mistake to attribute the traditional understanding of the emergence of marginal thinking to Schumpeter. If one examines the body of his work

[11]In literal translation, one would express the word as ''portion-use-value.''

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on the history of economic thought, one finds a somewhat more nuanced understanding of the importance of the Older German Historical economists, especially as compared to the Younger School, which is so often represented by Gustav Schmoller.

In *Economic Doctrine and Method* (1954), Joseph Schumpeter provides an ''historical sketch'' of the development of economic methods and ideas from the time of Adam Smith and the Physiocrats until the formulation of marginal utility. He attempts to incorporate the effect of social conditions and relations of power in explaining the way economic methodology evolved. In the last chapter of his work, entitled ''The Historical School and the Theory of Marginal Utility,'' Schumpeter describes the renowned *Methodenstreit* of the late nineteenth century as a ''hopeless struggle for supremacy amongst the basic assumptions contributed by the individuals concerned'' as a result of the ''tendency [to break] down the barriers between the various specialized branches'' of economics (Schumpeter 1954, p. 152). In accordance with Streissler's allegations, Schumpeter may seem not to give much credit to the theoretical work of German economists preceding neoclassical theory, since he asserts that ''[in] the middle of the nineteenth century the non-historical science of economics in Germany offered very little'' and that ''[t]heoretical economics had never become firmly entrenched in Germany'' (Schumpeter, p. 161). These statements, however, do not necessarily discount the *existence* of economic theory before the emergence of the Historical School, and it is in comparison to that earlier work that Schumpeter is making his judgment on the Older Historical economists.

Schumpeter traces the pre-existence of marginal utility theorizing back much earlier than Streissler does, pointing, in particular, to ''the writings of the scholastics (Beil) and later in those of the representatives of the Law of Nature (Pufendorf).'' He views this as bound to have happened, since ''the theory of marginal utility ... is extremely simple when taken by itself and without all its elaborations'' (Schumpeter 1954, p. 181). He subsequently mentions several Italian and French writers who developed marginal utility theories, such as Genovesi, Galiani, and Condillac. Before moving on to Walras, Menger, and Jevons, he makes special reference to v. Hermann (an important German figure who foreshadows Knies in Streissler's story), whom he describes as ''outstanding'' in ''proceed[ing] half-way towards a theory of marginal utility,'' and he finally praises ''the fantastic but bold book by H.H. Gossen, *Gesetze des menschlichen Verkehrs* (1836) the first formulation of the theory of marginal utility, which he stated fully conscious of its importance'' (Schumpeter, pp.181–182). Thus, although Schumpeter does not extensively refer back to all the writers who used marginal utility theory prior to Menger (in any case, that is not the purpose of his study), not only does he acknowledge the contribution of German economists, but he also shows a high degree of admiration for their work.

Schumpeter's perspective on the evolution (or not) of marginal utility reasoning in mid-nineteenth-century Germany is not to attribute the sudden emergence of marginal utility to the lack of forerunners in the field, but rather to focus on the difficulties created for the expression of such ideas in the academy of the German-speaking world during the dominance of the Historical School (through both in its older and younger phases). Nonetheless, Schumpeter speaks of a *revival* of theoretical analysis in the 1870s, and not of a *naissance* of the use of theory (Schumpeter 1954, p. 180). He sees a much smaller emphasis on theory by

economists in the period 1850–1870, due to the invasion and predominance of historical analysis in the field. He does not, however, fail to identify that economists in Germany continued to use theory even throughout that period. He describes Knies, for instance, as "a theorist who was closely associated with history and its philosophy. If he had founded a school ... it would have become a school of predominantly analytical character" (Schumpeter, p. 157). Schumpeter, thus, makes a clear distinction between the Older and the Younger Historical Schools, emphasizing the fact that Schmoller and the younger generation of the Historical School attempted to "eliminate [the] non-historical conceptions" present in the works of Knies, Roscher, and Hildebrand[12] (Schumpeter, p. 157).

Schumpeter, therefore, does not describe so much a discontinuity of ideas, but rather a divergence of direction in the science of economics during the second half of the nineteenth century, which resulted in "a struggle between two methods of work between people of different mental habits, who fought for elbow room or for domination" (Schumpeter 1954, p. 167). He portrays a situation in which, due to the stark competition between scholars for chairs in the universities, whoever held the greatest power in the world of academia (in Germany, it was the historical economists during the period discussed) fought to impose his own ideas and to block the dissemination of different theories. Thus, when Schumpeter tells us that "The theory of marginal utility did not originate as a widespread movement on well-prepared ground, but through the actions of some eminent men who could make their way only with difficulty and who succeeded only slowly in training a circle of disciples (Schumpeter, p. 183)," he is referring to the political struggle that reigned in the universities of Germany rather than whether economists prior to Menger and Walras had developed the fundamental ideas of marginal utility theory.

In the quest to find Karl Knies' contribution to the emergence of marginal utility theory, one can find a reliable source in the writings of Carl Menger himself, the founder of the Austrian branch of neoclassical economics. In Appendix C of his first and most famous publication, *Principles of Economics,*(1950),[13] Menger makes direct reference to Knies' aforementioned "richly suggestive essay" on value, criticizing, nonetheless, several parts of his theory, which he evaluates as leading to "doubtful conclusions." First, he alludes to Knies' definition of value as "the degree of suitability of a good for serving human ends," to which he objects because he says that it confuses the nature of value with the measurement of value: "the measurement of value belongs as little to the nature of value as the measure of space or time to the nature of space or time" (Menger 1950, p. 293). Thus, Menger understands Knies to attribute inherent value to goods, which obviously cannot correspond to the psychology of the newly born (Austrian) neoclassical methodology.[14]

[12]Schumpeter characterizes Hildebrand as a "forerunner ... —though with less justification—of the marginal utility theory" (p. 158).

[13]One should not forget that Menger dedicated this work to Wilhelm Roscher, which proves Menger's positive association with the Older Historical School, as the dedication reads: "Dedicated by the author with respectful esteem to DR. WILHELM ROSCHER, Royal Saxonian Councillor, Professor of Political and Cameral Sciences at the University of Leipzig" (Menger 1950, p. 43).

[14]We will examine the validity of Menger's assessment in the following section of the essay.

The founder of the Austrian School does, however, give credit to Knies for ''mak[ing] a penetrating attempt to solve the problem [of the measurement of value]'' (Menger 1950, p. 299). He praises Knies' efforts to formulate a principle for the estimation of value based on the ''fundamental concepts of value itself,'' but he considers some of the assumptions arising from this analysis mistaken, since they derive from Knies' confused original definition of value. Menger specifically states his disagreement with Knies' concept of ''a classification and scale of human needs to which corresponds a classification and scale of species of goods,'' since Knies' concept cannot account for public goods such as water or air, which satisfy some of the most essential needs of mankind, but yet have no actual price-value in the market (Menger, pp. 299–300). Menger, however, acknowledges the fact that Knies later differentiates between abstract value and concrete value, but he still does not seem satisfied with Knies' treatment of the measurement of value because of the latter's ''[failure] in formulating a principle for determining the magnitude of use value in its *concrete* form, although he comes close to it at one point'' (Menger, p. 300; italics in original, referring to Knies at p. 441). Thus, we see that Menger notices several unresolved ambiguities in Knies' essay, especially regarding the definition of the measurement of value, which he perceives as unclear. His major problem with Knies' theory, hence, deals with the fact that it lacks a precise way of calculating utility, a task the Austrian author himself undertakes in the main part of his work (Menger, p. 127).

But Menger seems to have appreciated Knies' work considerably, as he deems the German economist's contribution to the ''theoretical problems of the historical orientation of our science'' more helpful than that of the other two founders of the Historical school—i.e., Roscher and Hildebrand (Menger 1963, p. 191). In the last chapter of *Problems of Economics and Sociology* (1963), he praises Knies' methodological investigations for ''form[ing] a unit borne by homogeneous ideas, substantively even if not always formally'' (Menger 1963, p. 191). In this influential work, which initiated the Methodenstreit in the German-speaking academy, however, Menger does not neglect to make several critical remarks on Knies' methodology, which he viewed as ''one-sided.'' He attributes this one-sidedness to Knies' adherence to ''realism and collectivism in the view of theoretical economic problems'' (Menger, p. 191). In other words, Menger blames Knies for understating the importance of theory in the study of economics, while overusing empiricism as an instrument of analysis. He, therefore, criticizes Knies for ''fail[ing] to recognize the independent meaning of the exact orientation of research in the economic realm, or the nature of exact economic laws or even economic laws in general'' (Menger, p. 191). Thus, Menger identifies the problem of Knies' methodology with the latter's tendency to avoid universal economic laws, and instead to direct his modus operandi towards ''observed regularities in succession.'' In Menger's view, Knies should not have been so concerned to qualify and limit marginal reasoning, and to attempt to place its use in historical and national context; instead, he believed Knies should have embraced marginal reasoning as a first principle, accepted that it was used universally, across nations and peoples, and then used it himself to analyze historical data.

Menger's assessment of Knies relates nicely to Jun Kobayashi's (2002) perceptive analysis of Knies' use of the term ''*Analogie*.'' Kobayashi reflects Menger's concern

over Knies' denial of universal economic laws by examining the core of Knies' methodology, which focused on the use of analogy as a means of interpretation of historical data on the economy. Building to his central argument—regarding Knies' contribution to the establishment of sociology—Kobayashi begins by portraying Knies' view of political economy as the field of thought whose task is to ''identify the historical figure of the national economy that moves stage by stage, and then discern the fundamental cause of this movement'' (Kobayashi 2002, p. 58). Since Knies' method aims at correlating economics with other cultural fields, such as ethics and politics, we cannot expect him to accept any general laws of causality, ''because spiritual-personal factors as causes of economic phenomena do not have the constant character observed in material things [as examined by the natural sciences]'' (Kobayashi, p. 58).

Hence, Knies attempted to resolve the problem by positing the concept of analogy as an explanation of socio-economic phenomena. Instead of assuming universal motivations and universal human values, Knies argued slowly (one might say painfully) and by analogy to compare decision making in different circumstances to see if any analogies existed; if they did, then one could cautiously move toward making statements comparing different situations and possibly discovering common features of human reasoning. Such analogous phenomena would be ''defined as those that show coincidence up to a certain point but beyond it present differences from each other. This coincidence provides proof that both phenomena belong to the same genus'' (Kobayashi 2002, p. 59). Thus, Kobayashi represents the Kniesian perspective similarly to Menger, whereas he adds his estimation (similar to Menger's and Schumpeter's) that Knies did not completely repudiate theory, since ''this approach admits the regularity found in parts of objects and defines the realm of regularity based on individual cases'' (Kobayashi, p. 60). Finally, he accurately describes Knies' attitude towards theory as ''lukewarm'' due to his treatment of economic activities as historical outcomes. Therefore, Kobayashi resonates with the general perception—also expressed above by Menger and Schumpeter—that Knies and the Older Historical School primarily aimed at providing an historical perspective of economics, and not at ''develop[ing] analytical tools for market mechanisms'' (Kobayashi, p. 54), despite their knowledge and reserved use of theory. The problem was not that Knies disallowed theory or repudiated it: the problem was that he did not embrace it in the form of a prior, universalizing assumption, and use it to examine his historical data. The problem from the point of view of later economists who did embrace marginal reasoning was that Knies saw theory as something that needed to be built inductively, and that his inductive work had not led him to accept any theory, especially theirs, as universally true. His successors may have been even more frustrated with him because he spent so much of his effort trying to determine whether marginalism was valid, but insisted on leaving the question open. He saw it as a hypothesis; they saw it as a settled fact. In comparison to Schmoller's outright rejection of universalizing theory, however, Knies had great merit in the eyes of the Austrians.

The literature, therefore, suggests that Knies did, indeed, make use of embryonic neoclassical concepts (proto-neoclassicism), and, unlike Schmoller and the members of the Younger Historical School, he did not completely disregard theory but simply put less emphasis on it, since his primary focus was the examination of economic

phenomena from an historical viewpoint. Furthermore, one can infer from the above readings that Knies' work did not lead to a mere descriptive account of economic events, but rather to the induction of the causes of those events, often with the help of analogy as an analytical tool, while at the same time always avoiding the supposition of universal economic laws.

IV. KNIES' THEORY OF VALUE

Knies' essay on the "National Economic Theory of Value" (1855) provides a fine example of how the German economist employed theory in his writings and, likewise, demonstrates the ambiguities present in his theoretical work. In this article, Knies begins with a purely theoretical examination of the concept of value, which he later attempts to incorporate and adjust to the system of the national economy.[15] In so doing, Knies strives for a clearer definition of the concepts of use-value and exchange-value, and their corresponding behavior in the market.

At first, Knies provides the concept of "height" ("*Höhe"*) as a model for the examination of value, whose measurement he describes as based on the comparison of an object's height or altitude relative to a standard point of origin (Knies 1855, p. 422). Moreover, he represents a duality in the nature of height as he distinguishes between its quantitative character ("*Höhe"*) and its qualitative character ("*Erhöhung*.") Both characters of height are comprised in the third word, *"Erhebung,"* which combines the meaning of the two.

In this way, Knies creates a model for the analysis of the theory of value that follows. Thus, he establishes "human needs" as the standard point of origin, against which one can measure value (Knies 1855, p. 423). Moreover, he attributes a dual nature to value as a concept of both a quantitative and a qualitative character, for which, however, he cannot find two distinct words to identify each character as he does with height. Next, he introduces the distinction between exchange-value and use-value, which takes over most of his discussion, as he tries to define the conditions under which these two dimensions of value function in harmony with each other.

His analysis establishes further distinctions, such as that between type-value and species-value,[16] which can subdivide both use-value and exchange-value. He also presents a distinction between abstract value and concrete value, the former serving as a theoretical representation of value, while the latter relates to specific quantities of goods that satisfy specific masses of human needs in the national economy. Subsequently, he attempts to explain the harmony between concrete use-value and concrete exchange-value in a long, often prolix, and difficult discussion, where he provides numerous historical examples and even mathematical calculations. He also defines transactions costs as one of the determining factors that create the difference

[15]For a comprehensive explanation of the term "national economy," see Menger 1963, p. 193. When used by the Older Historical School, the term was used to connote the inductive nature of their work. It was meant to suggest that their study of economics proceeded from the careful study of people in their various national contexts.

[16]Type value: intensity of the need satisfied; species value: intensity of the satisfaction of the need (Knies 1855, p. 429).

between use-value and exchange-value. Finally, Knies concludes his essay by presenting his own division of the kinds of values that goods possess, which he identifies as material-value, form-value, and location-value.

A full examination of Knies' fifty-five-page essay would require a much longer discussion, which, due to space constraints, we cannot undertake in this analysis. We will, therefore, limit ourselves to re-examining the two distinctive themes of Knies' essay mentioned by others: his treatment of subjective utility; and diminishing marginal utility. It appears that Knies put a lot of emphasis on subjective utility for the purpose of his analysis, as he focused on the individual consumer to draw more general inferences about economic behavior. Early in his analysis, in order to closely examine the several features of use-value, he marks a "transition . . . from human needs in general to the needs of a certain individual" (Knies 1855, p. 429). This view of value—from the perspective of the individual with regard to the satisfaction of his own human needs—allowed Knies to reach great insights regarding utility theory that were later to become part of the foundations of neoclassical economics.

At several instances in the essay, Knies denies use-value as an inherent quality of goods, since only "the property of usefulness for human ends is inherent to objects" (Knies 1855, p. 453).[17] Hence, contrary to Menger's criticism, the German economist viewed use-value as a result of people's individual preferences for the satisfaction of human desires. This notion of use-value as a subjective conception reaches to the crux of neoclassical economics and Menger's theory, and even relates to the most fundamental concept of subjective scarcity.

The term "subjective scarcity" describes the condition according to which the value of goods depends neither on their costliness to produce, nor on their mere rarity, but on their availability relative to people's desire for them—that is, relative to the demand in the market. Knies made extensive use of the concept in his attempt to describe the determination of concrete use-value and concrete exchange-value in the national economy. He explicitly states that "the concrete use-value of goods . . . is not based . . . on the quantity in circulation, but rather on the relation of this quantity to the quantum of the need that it must satisfy" (Knies 1855, p. 455). Furthermore, as Streissler (1990) has demonstrated, Knies understands that the value that goods gain in exchange depends on the variability of utility estimations that the exchanging parties make (Knies, p. 467); thus, exchange will take place only if the good that A tries to sell has a greater use-value for B than the good that the latter is selling to A. In addition, Knies also mentions water as an ownerless good once it exists in great abundance (Knies, p. 472), which answers Menger's questioning of Knies' definition of value. Hence, one can say that Knies had made a decisive step towards the clarification of the meaning of value and—perhaps unwittingly —towards the establishment of neoclassical economics, when he perceived use-value and exchange-value of goods as dependent on the relationship between the available amount of those goods to the "quantum of the needs" they satisfy.

Knies' essay also indicates that he came very close to explaining consumption in terms of marginal utility theory. Just like Menger, Knies speaks of goods that attain use-value only at the margin of the need they satisfy (Knies 1855, pp. 462, 465).

[17]See also p. 455.

Although Knies does not explicitly mention a diminishing utility at the margin of the need, this supposition appears plausible when regarding all the conditions he has laid down for the reader. First, he makes a distinction between necessary and auxiliary goods, which acquire certain positions on the scale of goods, according to the necessity of the desire they satisfy. Hence, ''for the case of the necessity of the immediate consumption of necessary goods, the consumption of the less necessary ones will be sacrificed, or as we could otherwise express it: a person with a generally static or diminishing income is ready to pay an ever higher price for the most necessary goods'' (Knies, p. 449). Having already established a relationship of interdependence between individual desire and utility, one can interpret the above sentence as expressing the law of diminishing marginal utility from a point of view inverse to the customary, wherein one's utility for necessary goods increases marginally as one experiences a decrease in income.

But one would not under any circumstance ascribe the clear formation of neoclassical value theory to Knies. The co-founder of the Older Historical School appears to shift back and forth in his analysis, sometimes examining value from a microeconomic perspective and sometimes from a macroeconomic (or social, national) point of view. One could attribute this abstruse effect to his writing style, which does not encompass a consistent linear analysis that leads to conclusions in succession, but rather follows a weaving pattern around a sphere of connected ideas, the disentanglement of which becomes a challenging task for the reader. As Max Weber (1975, p. 94) once said of Knies' writing style in another piece,

> An analysis of Knies's work encounters serious difficulties. The first is his literary style, which is occasionally awkward to the point of unintelligibility. This is the consequence of the research method of the scholar, who packs a number of ideas into a single sentence, piling dependent clause upon dependent clause, without considering whether the resulting sentence makes grammatical sense.... His book [*Economics From the Standpoint of the Historical Method*] resembles a mosaic made of stones of very different hues; they blend nicely only when viewed in the large, but not always when viewed closely.

Likewise, in his obituary of Knies, which is otherwise highly laudatory, Gustav Cohn (1899) says,

> The influence of these writings would have been greater had Knies not scorned to express himself in simple language instead of apparently going out of his way to avoid simplicity of style, in order to construct the most astonishing sentences and expressions. But these formal faults of style, which we find likewise in his earlier writings, in no way detract from his permanent merits.

Therefore, it follows that we can observe inconsistencies and ambiguities within Knies' interlacing. He sometimes appears to refer to an average utility of goods rather than a diminishing marginal utility when he uses the term ''portion-use-value'' (''*Quotegebrauchswerth*'')[18] (Knies 1855, p. 451). Moreover, the reader cannot be

[18]Streissler translates this as ''marginal utility'' although literally this is not what Knies says, since he does not refer here to additional units of use-value but rather to portions of the total use-value represented by each unit of the total supply of the good (wheat).

certain of the path that the utility of the individual follows until it reaches the ''border of the need,'' since Knies never clarifies whether the marginal utility sensed until that point is of equal units or whether it declines. Furthermore, his examination of the problem through the spectrum of a national economy with a total mass of needs and total quantities of products creates confusion as to what extent his ''needs of the nation'' accurately resemble subjectivity, as well as with regard to whether one can identify these total needs with individual needs and individual behavior.[19]

Thus, even though he writes this essay from a solely ''theoretical'' point of view, Knies still refuses to establish precise mechanisms for the estimation of value, even though all the components of his argument can easily lead to such conclusions. It appears, therefore, that his preoccupation against the ''absolutism'' of the English Classical School and his objective to promote the concept of the national economy stand in Knies' way, and do not allow him to create the kind of precise theoretical models that Menger, Böhm-Bawerk, and J.B Clark would later develop. This refusal, however, does not surprise the reader, since the creation of such models would constitute a rather unhistorical approach, thus working against the main principles of the German Historical economist; i.e., against the emphasis on historical data.

V. CONCLUSION

One cannot doubt the fact that Karl Knies' theory of value is relevant to the development of economic thought in the late nineteenth century towards marginal utility theory and, ultimately, toward neoclassical economics. As several recent essays indicate, and as an examination of Knies' ''*Die nationaloekonomische Lehre vom Werth*'' proves, this co-founder of the Older German Historical School made extensive use of theory in his analysis. Both his emphasis on value as a measurement of the satisfaction of human needs and his inspection of the behavior of use-value and exchange-value at the ''margins'' of certain needs appear as precursors of the methodological solutions later provided by Menger. As observed, Knies himself did not produce a precise theory for answering these questions, since such a method would conflict with his understanding of the careful, inductive nature of the historical approach. He did, however, posit the appropriate questions regarding the theory of value, and he took an important step towards finding more adequate theoretical explanations, as admitted by Menger himself. Thus, one can see an increasing tension between the historical perspective and the use of theory within Knies' work, which reflects the writer's position at a vital crossroad in the development of economic ideas.

Ultimately, this tension manifested itself in the so-called battle of the methods in the German-speaking academia (*der Methodenstreit*), as the elements that comprised Knies' work were transferred to the next generation of German-speaking economists. On the one hand, the Younger Historical School led by Gustav von Schmoller

[19]Chipman (2005, p. 202) addresses this apparent ambiguity in a long footnote that argues that Knies (and Hildebrand before him) had meant to equate average *need* of a commodity to its marginal utility. He may well be right, of course, but no one else who has commented on the passage has been able to see this clearly.

identified itself with one part of the efforts initiated by Knies, Roscher, and Hildebrand, and, in so doing, propagated a more purely historical approach to the study of economics. Schmoller and his disciples completely disassociated themselves, however, from theory, thus denying the validity of some aspects of the Older School's teachings. Carl Menger and the founders of the Austrian School, on the other hand, drew from Knies' and other German economists' inchoate theoretical models, and developed mechanisms that would eventually lead to the mathematization of economics and conjecturally signaled the beginning of what was later to be called the Marginalist Revolution. Thus, we can locate Knies in a rather paradoxical position in the history of economic thought, where he appears to have influenced two diametrically opposed schools of thought that decided to express fervently the two streams of thought present in his work, each school from its own side; a conflict made possible by the fact that Knies himself saw these streams working together and so did not attempt a final and ultimate choice between the two in his own work.

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