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Abstract:

In 1905, Georg Friedrich Knapp published *The State Theory of Money* in his native German, claiming that money is a "creature of law" and not connected to metals via some intrinsic value. When the English translation appeared in 1924, apparently at the wishes of John Maynard Keynes, the German version had run through four editions, upon which the last the translation builds. There also had been considerable debate about 'Chartalism' – the idea that money derived its acceptance by legal means – in the German academic literature. Among others, Knut Wicksell and Georg Simmel commented on it. Since so far there has not been any English-language publication on this issue, it is deemed worthwhile to provide such. After presenting the main arguments that Knapp makes in his book, the academic reviews that followed are presented and evaluated.

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1. Introduction

Over the last years, monetary questions have returned to the agenda among economists. The creation of the Euro in the 1990s and the debates preceding it made explicit the need for a monetary theory that is applicable to problems of the real world. The history of economic thought provides rich evidence of discussions of monetary theory. Wicksell (1898), for instance, discusses the connections between the quantity of the monetary aggregate in circulation and the role of the interest rate in influencing that aggregate. He clearly recognises that money is created by the stroke of a pen, a finding echoed 90 years later in the writings of the late Basil Moore.[1] Wicksell also recognises that we have to understand the two monetary circuits of cash (and reserves) and bank deposits in pure form and then their interactions.

This approach has been replicated by the scholars developing the Modern Monetary Theory (MMT).[2] Understanding modern money created by banks, the scholars turn their view to the creation of money (reserves) through the interplay of central bank and Treasury. The main insight is that the central bank is "the fiscal agent of the State" and hence should be counted as a public sector institution, just as the Treasury. Aggregating the two institutions into the public sector, it is clearly recognised that government is the issuer of the currency and thus faces no budget constraint. This insight was first described in a book published by Georg Friedrich Knapp (1905) with the title *Die Staatliche Theorie des Geldes* (The State Theory of Money).

An abridged translation into English was commissioned by the Royal Economic Society and published almost twenty years later in 1924.[3] By that time the discussion of Knapp's book was already under way in the German-speaking world, having triggered a flurry of reviews. Given that its insights have been lost on modern economists, it should be interesting to see what happened after the publication of that controversial book more than a hundred years

[1] See Moore (1988) for a discussion of the endogeneity of money and the resulting horizontalist view of interest rates being independent from loan demand. The research program that Moore develops has not been systemically exploited so far.
[2] See Wray (2000) in a book titled "What is Money?"
[3] The book stirred up considerable interest and in the book on "German Monetary Theory, 1905-1933" Ellis (1937, 13 ff.) starts with Knapp's book.

ago. To this end, the book reviews that immediately followed the publication in 1905 will be reviewed here.[4] As we will see, the book was received with suspicion, hostility and affection by the reviewers. In the next section I present a short summary of the book, followed by a summary and discussion of the book reviews. The following two sections are on the exchange of letters between Knapp and Friedrich Bendixen, a banker with academic interest, which contains some comments on the book reviews discussed in this paper. A short section discusses comments from contemporaries of Knapp – like Wicksell, Simmel, Schumpeter and Keynes – before the findings are wrapped up in the conclusion.

2. *The State Theory of Money* (1905/1924)

Georg Friedrich Knapp lived from 1842 till 1926. He was a German economist and, according to Trautwein (2003),[5] is widely remembered as the author of *The State Theory of Money*. The book is now relatively obscure, though a new German edition was just put on the market.[6] Knapp studied political economy in Munich, Berlin and Göttingen. He was one of the founding fathers of the German economists' association (*Verein für Socialpolitik*). Knapp was made a professor at the newly founded Straßburg University in 1874 and remained there until the Alsace was returned to France in 1919. Knapp's son in law Theodor Heuss, the first president of the Federal Republic Germany, praised his impartiality and precision. Before the publication of *The State Theory of Money*, Knapp wrote about economic development. He was called "the best expert on German agricultural history" in a book on biographies of Germans by the *Verband der Deutschen Akademien*, the Association of German Academies (1928, 596). Wicksell (1906) thought him to be "one of the pillars of the German Historical School", which was led by Schmoller.

[4] Of course, this is only the start of the reception of Knapp's book, which was discussed mostly in the 1930s. According to Feldman et al. (1986, 19), there was a significant discussion in German academic circles, with one of the most important journals (*Der Wirtschaftsdienst*) taking the side of Knapp.

[5] The following paragraphs draw on Trautwein (2003).

[6] The publishers are the creators of the Georg-Friedrich-Knapp-Gesellschaft für politische Ökonomie e. V., Paul Steinhart and Heiner Flassbeck. The new version uses the Latin script, whereas the old followed the Gothic script popular in Germany in the beginning of the 19th century (which is somewhat difficult to read).

In the author's preface to the English edition, Knapp states that the English translation is based on the 4th edition in German. He mentioned the review by Dr. J. Bonar (1922) that was based on the German edition.[7] Thereupon, Knapp (1924, v) writes in his preface to the English edition, "the Royal Economic Society determined to set on foot an English translation, in an abridged form". Knapp particularly thanks "Messrs. Keynes and Bonar" as well as the translator and her adviser. The role of Keynes in the translation of Knapp's *State Theory of Money* escaped notice of later scholars of Keynes. Neither Skidelsky's (1992) three volume biography of Keynes nor Patinkin's (1982) book on anticipations of the General Theory mention Knapp. On the other hand, Knapp was not completely forgotten, as shown by Trautwein's (2003) chapter on Knapp in a book on European economists of the early 20th century. Wray (1998) and other post-Chartalists of the Modern Monetary Theory variety then brought Knapp back into academic discourse.[8]

The first sentence of *The State Theory of Money* is a direct attack on the existing idea that money has intrinsic value based on precious metal. Knapp (1924, 1) defines money as a creature of the law and concludes that "we must deal with legal history".[9] He opposes the widely-held view that money can be understood from numismatics, the study of the collection of coins. Knapp (1924, 1) instantly distances himself from embracing a "paper money pure and simple", like that issued in Austria in 1866 during the war with Prussia (see Dub 1902, 566-7). In Knapp (1907), he argues that Germany can keep her gold-based currency in circulation and should not move to a paper-based standard.[10]

Knapp looks for a definition of money and starts with specie. He writes: "Let us assume that this exchange-commodity consists of a metal - which is not absolutely necessary, but occurs in the most important case - we can then give a name to this simplest form of the means of

[7] Sanger (1906) published an enthusiastic book review - "So masterly a piece of reasoning is not often presented to the reader" - on Knapp (1905) much earlier in the same journal. The book review ended with the sentence: "[A] reviewer must express the most earnest hope that *Staatliche Theorie des Geldes* will be translated into English without delay".
[8] See Wray (1998), Wray (2014), Bell [Kelton] (2000), Tcherneva (2018), Fullwiler (2017), Mosler (2010).
[9] A very readable short version of his book is Knapp (1925 [1906], 243-255)
[10] Knapp thus was not a monetary reformer. Just as authors of Modern Monetary Theory today are believed to be reformers even though they are interested in a correct description of monetary reality, Knapp was seen as attacking the status quo.

payment; it is ‘autometallistic’.”[11] This autometallism “gives no juristic consideration to the form of the pieces” – it is all about weight (and purity). Knapp the discusses the possibilities of silver being used by the recipient for “real” or “circulatory” satisfaction. By real satisfaction he means the use of the silver in crafts, while circulatory satisfaction seems to mean acceptance as a “means of payment”. Knapp then discusses the role of debt in providing the monetary unit of value. There are debts expressed in units of value set by the state, discharged with a means of payment. Here we have the state, “as a maintainer of the law,” determining what it accepts to discharge debts against itself.[12] This is Knapp‘s definition of the means of payment. According to Knapp (1924, 15), the state also recognises that in cases of conversion “all old debts are uniformly converted in the new means of payment”. Knapp stresses that debts are nominal, even those paid in specie. Therefore, he claims to have found a general theory of money that covers both specie (which can provide “real” satisfaction) and paper money (which does not) as instances of it.

The second subsection of the chapter is titled “Chartal Means of Payment”. Knapp proposes to understand the movement from money based on metal to money based on paper as an evolution. He writes: “Our law lays it down that only pieces formed in such and such a manner are to be admitted as means of payment, and the significant marks of the pieces are prescribed by law” (1924, 27). It is the proclamation by the state that makes a means of payment. Its “validity [is] dependent not on weight but on fiat”. Knapp compares money to tickets, stamps and tokens, which also have no intrinsic value but derive their meaning from the institutional, i.e. legal, surroundings. The legal significance of coins would come not from the coins themselves, but from their legal interpretation. Knapp concludes: “The definition of money is therefore a ‘Chartal means of payment’.” Coming back to the first sentence of the book, Knapp notes that political action of the State would be the source of money, not jurisprudence itself.

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[11] In his book, Knapp introduces many new terms, built mostly on Greek words. Since these words did not carry over into the language used by monetary theorists I have decided not to use them.

[12] This notion may be found in Adam Smith (1776, 256). On Money considered as a particular Branch of the general Stock of the Society, or of the Expense of maintaining the National Capital, he writes: “A prince who should enact that a certain proportion of his taxes should be paid in a paper money of a certain kind might thereby give a certain value to this paper money, even though the term of its final discharge and redemption should depend altogether upon the will of the prince.”

Following this, Knapp briefly discusses the international dimension. Whereas in autometallism coins are at once international means of payments, this is not the case with Chartal money.[13] The law does not operate beyond the state's boundaries, so the use of Chartal money is limited to the state's territory. In the third subsection of the chapter on "use in circulation", Knapp (1924, 95) recognises that those who hold Chartal money do so "with a view to future use for payment". Knapp criticises the fact that most people think of money as an asset and forget the fact that it is a liability, too. He stresses that individuals have positive (assets) and negative claims (liabilities), just as the state does. Money therefore always has to be considered as both asset and liability (Knapp 1924, 48). Only then it will be understood that "[s]uch tickets as paper money pure and simple are, it is said, acknowledgments of the State's indebtedness. Payment in such tickets is therefore only a claim on the State" (1924, 50). In other words: the paper money discharges tax liabilities against the state and nothing else.[14] Knapp discusses whether paper money proper is a state debt – the promise to pay something "better" in the future – and concludes that in a legal sense they are not, "but at most appear so". The section ends with Knapp stating that people will retort that what he says only holds true for paper money, not for specie. He believes, however, the dividing line is between pensatory (=weight-based) and Chartal (by proclamation) means of payment. The final section of chapter 1 is a long discussion of metal-based money in the last subsection, bringing the chapter 1 to a length of 92 pages.

Chapter 2 deals with "currency within the home country". On pages 106-7, Knapp introduces the notion of "valuta": "Accordingly, the question before us is, What kind of definitive money is, in fact, kept in hand for apocentric payments ? It is not what the law offers as possible, but only what the Government selects, and for this kind of money we use the expression 'valuta'." To be 'valuta', money is required to possess the property of ultimate validity, and "secondly, the money must be held in readiness for apocentric payments." This is where power enters into the calculations of Knapp: "Having the money in stock is a political and not a juridical matter; it often depends not on the State's wishes, but on its

[13] There is an interesting sentence in the context of the Eurozone on p. 41: "If two States should make an agreement for pooling their money, then for our purposes they are no longer separate States, but form a community of States which is to be regarded as a whole."

[14] The quote continues: "… a provisional satisfaction still leaving something to be done on the part of the State."

powers."[15] Knapp points out that the state "is not, in fact, bound by its laws, which it only maintains for its subjects : from time to time it of itself creates new rights and obligations to meet the facts administratively, and perhaps afterwards changes the law to make it correspond" (1924, 106-7). So in the end the administration pays out a certain money and accepts it for payments to itself – whatever the law says! This is the power of the state, overriding every private interest that is not represented inside it. The emergence of a currency is hence due to activity and interests of the state.

Knapp discusses some empirical cases and then the role of banks. He notes that "[t]he convertibility of the bank-notes is then one of the measures by means of which the State assures a superior position to the money which it issues itself, certainly a very important object". This comes very close to what Mehrling (2010) calls the "pyramid of money", with bank deposits being promises of "higher" money, like central bank deposits. Knapp states that it is assured that there is a "fixed rate for the bank-notes in terms of the State-issued money" (1924, 141) – Mehrling's "par", if that fixed rate is one-to-one. Banks also use "Giro groups" to make payments among each other. After paying in a certain amount of state money, they have access to deposits at the Giro group which they can use to make Giro payments: "The members of an association of payers make their payments to one another in the following way; member A delivers a claim which stands to his credit at the central office to member B. By this means the payment is carried out." Knapp discusses more topics, like agio and changes of standard in this chapter, which are omitted here because they are of no further interest. Chapter 3 is on exchange rates; chapter 4 consists of a historical review of countries like England, France and Germany.

The publication of *The State Theory of Money* in 1905 marks a watershed not only in monetary theory, but in economics as a whole. In the preface to the German edition, Knapp (1924, vii) writes: "In the autumn of 1895, in a course of lectures in Berlin, I put forward my views fully for the first time, laying down: that the money of a State is not what is of compulsory general acceptance, but what is accepted at the public pay offices; and that the standard is not chosen for any properties of the metals, but for the deliberate purpose of

[15] The focus here is to money based on metals. One cannot have a gold currency if constant gold outflows to foreign countries occur would probably be an example of Knapp's reasoning.

influencing exchanges with the commercially important neighbouring States." These views are incompatible with the economic theory that the discipline's writers used at that time, so it would be expected that entrenched interest would rage against Knapp's theory.[16] Disconnecting money from metals, the supply and demand toolkit could not be applied to metal anymore: it was not scarce. The lack of scarcity – pun intended – is due to the fact that the state can produce paper money at almost no cost at all. That such a money should have any "value" in exchange at home (purchasing power) or abroad (exchange rate) would be unthinkable for many economists, even though this possibility was mentioned by Adam Smith (1776, 256) in *The Wealth of Nations*. Therefore, Knapp must have expected some backlash against his book. Knapp's reaction to his book's reception recorded his exchange of letters with Bendixen, published by Singer (1958). We return to this topic in section 4.

3. The reception in German-speaking academic discourse

In the exchange of letters between Knapp and Bendixen four reviews by three economists are discussed at some lengths. They have been written by Calligaris (1906), Diehl-Königsberg (1906), Soda (1907), Lexis (1906a, 1906b) and Voigt (1906). From this beginning, a large literature developed, leading to whole books being devoted to *The Quarrel about the State Theory of Money* (Der Streit um die Staatliche Theorie des Geldes).[17] Döring's (1920) book on the history of monetary thought starts with Knapp, underlining the importance of his contribution.

In the following, I will provide some brief biographical information about the authors of the first book reviews and provide summaries of these usually lengthy and thorough reviews. I will highlight issues that are interest from today's perspective but at the same time not forget to mention the issues that the authors brought up at considerable length, even though they might look uninteresting from today's perspective. The book reviews are

[16] See Häuser (1994) on the ambiguity of German economics in the 1920s.
[17] see Palyi (1922). He concludes on page 95 that apart from the technical system Chartalism would be "invalid", belittling the book by praising its "artistic" value of connecting economic and legalistic ideas.

followed by a section on what Knapp and Bendixen had to say about them in their exchange of letters.

3.1 Diehl-Königsberg (1906)

In his book review, Diehl-Köingsberg summarises the book by Knapp in a very precise way. He does so in such a convincing way that when he starts his critique the reader suspects him to agree with the book – but he does not. He concedes that money is a creature of the law, but stresses the connection between money and gold and other metals. He – and the metallists – would not recognise a monetary constitution without metal for a simple reason: it is an impossible thing! Even for domestic circulation it would not be possible to sustain a circulation without metal. All paper currencies would be derivatives of metal. He concedes to Knapp that currencies based on metal do possess a value that is permanent. The value of gold itself would be volatile, but its volatility is the smallest among the goods that exist.

Diehl-Königsberg misses a theory that would explain why metal is not necessary for domestic circulation, referring to Knapp's idea that the state can demand payment in certain monies and hence increase their distribution. He discusses certain historical episodes and finds metallists in agreement with some of Knapp's statements, like that possibility of the state to influence the exchange rate or the dependence of the latter on international liabilities. Diehl-Königsberg concludes that Knapp has expanded the role of the state in monetary theory successfully, but without unsettling the basics of the metallist theory of money.

3.2 Calligaris (1906)

Published with the subtitle "A scientific judgment of the monetary reform", Calligaris reviews Knapp's book from an Austrian perspective.[18] He starts by noting that no general theory of money exists and that metallism would be the only theoretical structure. Knapp's book changes this by trying to unite all sorts of money under one theory. The unifying concept is that of money always being a Chartal means of payment, that it is the state that

[18] Austrian as in viewed from Austria, not from the Austrian school of economics.

accepts a certain token for payments to itself which gives money its property. This is also valid for money based on metal, which is not worth what it weighs but what it proclaims. Even though the English pound used to be based on weight, Calligaris observes that this is no longer the case. Indeed in most monetary constitutions the value of money is not connected to a certain content of metal.

Calligaris then writes about switching from one currency to another, nominality of debts and the unit of value. He then discusses the money that is accepted for payments by the state and hence to some extent can be pushed into circulation.[19] Calligaris states that the question of what determines the status of permanent money is decided by the skills of the monetary authorities, suggesting that "this is not a question of law but one of economic power" (1906, 45). This seems to imply that the state can force its citizens to accept a certain money independent from any declarations of law, like that of giving a currency the status as legal tender. Calligaris notes that the holder of a banknote does not have a claim on the emitting institution but rather a means of compensation when it comes to claims made from the institution on him or her. He then discusses cash as money and why money is never a commodity inside the country but rather the yardstick.[20] Gresham's law – of bad money driving out good money – would not work in the context of money that the state accepts for payments to itself.

After discussing Austrian monetary history, Calligaris makes the bold statement that there are no equilibrium exchange rates and that these would be determined by international relations of trade and payments. It is possible to fix exchange rates through economic management of the currency. This would be good for weaker states as it helps the interests connected to trade and finance. The efforts to stabilise the exchange rate work through movements of the rate of interest. These have distributional consequences. An increase in the interest rate is damaging to those borrowing from the central bank, a decrease harms

[19] There is no discussion of seignorage, even though at this point the issue is clearly visible. See Reich (2017) for a discussion of seignorage in different monetary systems.
[20] This is interesting with respect to later discussions about how to include money in theoretical economic analysis.

the bank or, in Russia, the state, and thus ultimately taxpayers.[21] Whether the stabilisation of the exchange rate is ultimately successful depends on the economic power of the state. The actual international means of payment would be gold, which is why 1871 is such a significant year in monetary history. A discussion of Austrian monetary history follows, leading to the recommendation to concentrate all gold for use in international payments, rather than using to unnecessarily back up domestic currency.

Calligaris closes with the remark that the new teaching allows an alternative to good and bad in finance, based on actual facts and recognising existing arrangements. Calligaris then attempts to reconcile metallists with Chartalists by stating that inside the country Chartalism would rule, whereas internationally a “theory of business” would rule. This theory would replace the quantity of money with the quantity of business, which are the ultimate ends of the issuance of money. In the end, a monetary system‘s fate would be connected to the economic power of a country.[22]

3.3 Soda (1907a, 1907b)

According to Singer (1958, 71 fn. 1) Kiichiro Soda was a very distinguished Japanese private banker and social philosopher, whose views are roughly in line with the Austrian school. He was at Freiburg im Breisgau in 1907, where he read a book review of Knapp's *State Theory of Money* in a Japanese journal on the law and sent a German translation of it to Knapp. Knapp ignored the book review just as he ignored all the other book reviews coming from foreign countries. This is somewhat odd since Knapp spoke English well and had studied the English political economists before 1870.

Soda starts with a short summary of Knapp’s main points, then attacks the book on two fronts. Firstly, means of payment is but one function of currency. Why is Knapp so fixated on this function? Means of exchange and measure of value, according to Soda, are what needs

[21] Again, a discussion of seignorage is avoided even though the issue is clearly visible. Lower interest rates reduce central bank profits, which are an income to the State. In the early 20th century this would normally have triggered a discussion about seignorage.

[22] Calligaris seems to say that the monetary system has an influence on the economic fate of a country, but it is possible to read causality the other way around as the very long statement runs over five lines.

to be examined in order to understand the nature of money (1907a, 339). The function as means of payment would be a derivative of the other two functions. Secondly, Knapp's idea of means of payment is different from that of other economists. Soda does not instantly provide any theoretical explanations to back up his arguments but refers to one of his writings (in Japanese). He stresses the difference of the law and economics as the result of the specialisation of sciences. Later, he uses almost incomprehensible sentences to describe what he thinks money is. For instance, Soda (1907a, 342) writes: “Money is, like I said, a realised objectivity of a psychological human process, that means, of subjective value”.[23] He writes that the law does not force anybody to save student fees, in the form of money or wire, towards where the son is studying.

The next section is on the value of money (*Wertmaß*). After some metaphorical musings, Soda states that money builds on specialisation of labour and private property (1907a, 343). He mentions Marx and the idea of the circuit (M – C – M), in which money is traded for goods which are trade for money.[24] The point is to divorce money in economic life from money in legal terms, driving a wedge between the statements of Knapp and the real world. Soda (344) states: “It is the nature of money that it is the objective expression of value”. This is the opposite of what Knapp said, who stressed that the question of “value” of money is imprecise, that “value” as such would not exist. There are many things you could buy with money, and therefore “value” is too broad. Knapp would probably accept a consumer price index or a stock market index as a useful statistics, but he would be strongly opposed to use the word “value” in conjunction with them. Soda wants to compare the value of money with the value of goods. He concludes that the state can fix the unit of currency, then suggests separation of the “form” (*gestalt*) of money and its functions. Soda sees money arise before debt (345) and hence does not support the idea of money as debt as developed by Knapp.

Soda’s (1907a, 347) definition of money is the following: “A thing […] becomes means of payment because it is money”. To define money by defining a means of payment is, according to Soda, the wrong way to proceed. Soda agrees with Knapp that the state has the

[23] The original reads: „Geld ist, wie ich vorher betont habe, eine verwirklichte Objektivität eines psychologischen Vorgangs des Menschen, das heißt, des subjektiven Wertes“.

[24] Soda does not write M – C – M' (*Geld – Waren – Geld* '), the usual notation that indicates that profit (more money) is the ultimate goal.

power to define the medium that discharges a liability. However, in the economic dimension money would be something different. Money would be the objective expression of value, bound with the function of means of barter (*Tauschmittel*). He thus disagrees with Knapp's definition that money is determined by legal considerations.[25] On the legal side, money is the measure of value and the means of payment (*Zahlungsmittel*).[26] The ideas expressed by Knapp, namely that money is a creature of the state, that past, present and future of money must be thought from a legal perspective and some other issues are due to the neglect of the economic dimension. Soda then discusses the controversy of the banking school and the currency school in the context of philosophy, acknowledging the work of Simmel (1978) [1907].

In the end of the first part of his book review (1907a, 336-355), Soda develops a range of questions on why money should be differentiated from non-money, why the property of means of payment should define money, and why one should call money that which the state declares as money. He continues the discussion in the second part of his book review (1907b, 620-655). Since he lays down his own opinion, discussing Knies, Simmel and Marx, among others, the second part is not directly relevant in the context of Knapp's State Theory of Money. Soda returns to Knapp only in his conclusion. He rejects Knapp's ideas outright, writing at length about problems of value, the exchange rate and paper money. He claims that paper money can be money and believes to contradict Knapp. Soda (655) concludes: "The function of money to provide a numerical measure stick (*Maßstab*) to all economic phenomena and actions, independent from the subjects. And nothing else."

3.4 Lexis (1906a, 1906b)

Lexis, who belongs to the historical school, wrote two book reviews in 1906. In Lexis (1906a) he starts by noting that Knapp's theory is static and does not cover the dynamic aspects of money, with the state keeping up its monetary order against "the storm of economic forces" (557). According to Lexis, all countries have seen their foundations of monetary law being

[25] On page 353, Soda writes that Knapp could not explain the current monetary arrangements of China, but does not proceed to make his case.
[26] He discusses money as a means of payment in more detail on pp. 354 ff.

shifted without their action and without their intent. The processes requiring explanation are the transformation of the circulation of gold into a circulation of currency, and the loss of 90% of the value of paper money. Lexis congratulates Knapp for the vocabulary that he invented and the definition of money as a "Chartal means of payment". He rightly summarises Knapp's view that it is not metal content but proclamation that makes money money, and that Knapp's book is not a call for paper money. Lexis understands the centrality of the argument that money discharges our (tax) liabilities vis-a-vis the state. He notes that Knapp's definition of cash as metal coins is tighter than the usual definition of the time (which, in Germany, included coins, bank notes, notes of other banks and the state, gold and foreign cash). Lexis then searches for examples in the real world that would fit Knapp's categories of money and spends the next pages discussing Knapp's vocabulary. This is followed by a description of the issues relating to international currency. In all of these, Lexis confirms the views of Knapp.

Lexis then discusses the difference between Knap and the metallists. While the metallists would only look at money in terms of stability of purchasing power, Knapp sees it from the perspective of nominal debt. The existence of nominal debts allows the state to insert a currency with which to discharge the debts incurred in the past. The state, according to Knapp, has no power over purchasing power and relative prices. Metallists would see the switch from cash to paper money not as degeneration (*Entartung)* of money as long as there would be a metal standard foundation. Since metallists cannot explain recent monetary phenomena of paper money keeping its value (purchasing power), Knapp was justified in putting forward a new theory. His theory, however, would only look into the being of money. The effects of money are different and they need to be addressed as well.

Lexis (1906b) starts with the metallists' definition of money. According to this definition, money is only money if it retains its value, even if it loses its form as money by conversion to pure metal. The state puts symbols on metal to guarantee its quality and weight. Everything else is a surrogate and not "real" money. However, recent phenomena have shown that paper money can take on functions and characteristics of independent money. Changes in purchasing power would complicate the matter. Knapp, however, would see money as a creature of the law, and its existence as independent from its material. The further statements are mostly identical to those in the other book review. Lexis emphasises that for Knapp money is not that which is legal tender or that which is emitted by the state, but only that which is accepted by the state for payment.[27] The state has to act in order to fix the exchange rate of its money with respect to gold, a strategy favoured by Knapp. This leads Lexis to praise Knapp for his “clearest transparency” and “strictest logic”.

In his conclusion, Lexis argues that Knapp has written a book on money which ignores the economic – as opposed to the state – theory of money. His theory would stand the test of time, but an economic theory of money is also needed. This would be of importance for the state when it designs its money. Lexis doubts that the economic theory of money, which is still firmly rooted in metallism, would take a Chartalist turn. So, for now, the doctrine of metallism would be sufficient to understand money, with the English system of gold-backed money being the normal case.

3.5 Voigt (1906)

Voigt (1906, 317) starts with a comparison of Knapp with Schmoller. Schmoller would present facts and, putting them to use, would reject theories using those facts. Knapp, however, starts with theory – of money being a creature of the state – at the outset, proceeding more through logic than facts. Only in the fourth chapter would Knapp follow the path that led him to develop his ideas about money. Knapp limits himself to the recent history of money, whereas Schmoller would have presented a complete history. However, Schmoller would agree with the focus on the state, the public administration and the rejection of economic laws.

According to Voigt, Knapp builds up his theory *a priori*, without introducing empirical facts to the reader. The law of the monetary institutions rests on the laws of the state, not on economic laws. The economic issues would rather disturb the legal order. Voigt concludes that Knapp’s rejection of economic laws in the field of money is an application of Schmoller’s general principle of rejecting economic laws. Voigt recognises the importance of the issue at hand: if the idea that the state is above the economic laws and can hence manipulate,

[27] Knapp does not deny that legal tender exists – it just does not feature in his definition of money.

change (*abändern*) or modify (*modifizieren*) them is correct, then it would have opened the door wide for any sort of radical economic policy. The state then should be able to push down the price of real estate, regulate the price of bread and meat and also the worker's wage. Thus the question of the organisation of the economy is one of legislation, and problems would only exist because of the "good will" of the ruler.[28] The "good defense" that some things are impossible for economic reasons, which the state has to protect itself from radical claims, would be lost.

If all of this would be correct, then the discipline of economics would be no special science, but rather be applied administrative law. The role of economists would be to teach the administrators what good will is. This seems to be what Knapp would be doing, teaching financial men (*Finanzmännern*) that there are no barriers and that those that they see are imagined ones. Voigt mentions in passing that what Knapp says has been said before and that Knapp fails to cite his predecessors.[29] Knapp's idea is that the state introduces new money just as it introduces new measures for weight or length. It would be without consequence whether the state chose gold coins or paper as currency, as it sets nominal value of the pieces. People would not greatly care about this as they both receive money and return it to the state.

Voigt stresses that Knapp writes about only one historical issue, that of the nominalism of debt. Consumer prices can change, but the nominal debt must be upheld. Voigt stresses the experience of paper money in Austria mentioned by Knapp in the preface. It is here that Knapp sees the state stamping paper money used for ultimate payment as the burghers cannot exchange their paper money into anything else promised by the Austrian state. Voigt notes that Knapp's attacks on economists and practitioners are relatively fierce, but since he does mention names this should not be a problem. Voigt then writes: "this state theory does not fit the facts of monetary history nor the current phenomenon that prompted its development" (1906, 325).

[28] I'm not sure whether Voigt is sarcastic here or if this is a typo.

[29] Voigt (1906, 321) mentions publications by Menger and Roscher.

Voigt addresses the question of whether the state can chose the currency as it wishes. He examines the case where the state replaces one currency with another that has a different purchasing power. A state doing this would be accused of breaking the law, as it would constitute an intervention in property rights and (nominal) debts. It would be acceptable if changes in purchasing power would come about over time, but if the State would change it on purpose we would have a social "coup d'état" (*sozialer Staatsstreich*). An historical example from ancient Greece is put forward to support his claim, but Voigt has to admit that the consequences of the change in purchasing power had not been recorded. Voigt claims that even though Knapp never explicitly mentions it, he would think it possible for the state to change the purchasing power of currency when introducing a new one. A change in purchasing power would lead to economic disorder and hence nobody should believe that the state could change the currency in this way. Because of this they would be factually impossible. Voigt then accuses Knapp of producing a theory of money for the isolated state.[30] A change in the currency of England would lead to economic disorder in foreign trade, which Knapp would ignore.

The next issue concerns the term "money". Knapp, Voigt writes, would have a narrow definition of money when he defines as money only that which is legitimised and issued by the state. No conclusions regarding the nature (*Wesen*) of money should follow directly from this definition as other definitions are possible. Voigt notes that there has been and is in use money that has not been issued by the state, a fact that Knapp would not disagree with. Voigt sees in Knapp two payment systems, one based on economic motives, the other on authority of the state. Voigt distinguishes three historical periods:

1. a period of private money only (pre-middle Ages)
2. a period of money issued by states and territories (middle Ages until late 19th century)
3. a period of monopolised state money (19th century onwards in England)

[30] The „isolated state" goes back to von Thünen (1966), originally published in German in 1826. Voigt makes the connection explicit in footnote 1 on p. 336.

Voigt says that in the first two periods economic and not legislative moments ruled. Why was the relationship between money and the state different over time? Voigt sees the state of the pre-middle Ages periods as not having a monetary-financial base that would allow it to regulate and intervene. The money issued by the state in the third period would on an economic basis that was established in the past. Voigt notes that the state could not regulate the value – read: purchasing power – of its paper money. Good money, according to him, should have a constant purchasing power. He then praises gold as a good basis for money. His reasons for this are kept in the dark, summarised only as money is money because it is accepted as money all over the world. Voigt claims that the state did not cause gold money to circulate, so it cannot take away this property. A discussion of gold currency in the world economy follows. Voigt concludes briefly that economics should be an economic science, thus rejecting the idea that legal considerations play a role when it comes to money, as Knapp theorised.

3.6 Others

Knapp's book prompted a significant academic debate. Many prominent economists wrote about Knapp's theory and about how other economist's work would fit into the *The State Theory of Money*. In the following, some contemporaries of Knapp that were influenced by his ideas are briefly examined.

Georg Simmel

Simmel published his *The Philosophy of Money* first in German in 1900.[31] In the third English edition (Simmel 2004), David Frisby mentions the connection between Knapp and Simmel. Knapp followed the work and career of Simmel and read *The Philosophy of Money*, commenting on it in a letter that it was stimulating to him.[32] Possibly, Simmel had attended lectures by Knapp when he was a student in Berlin. Knapp also had a hand in Simmel's appointment at the University of Straßburg.[33] Frankel (1977) writes extensively about the

[31] See Laidler and Rowe (1980) for a review article for economists.
[32] Simmel (2004, xvi)
[33] ibid.

monetary theories of Simmel and, to some extent, Knapp. He does not agree with Knapp. The state would not be an actor, Frankel (1977, 52) thinks, and if it would be and we assume that he is "all powerful in monetary affairs [..] then we have in fact assumed away a free monetary order." Härpfer reports that during 1872-1882 Knapp, Lexis and Schmoller build up the Political Sciences seminar (*Staatswissenschaftliches Seminar*), which was led by Schmoller when Simmel attended it in the summer of 1889.

Knut Wicksell

Wicksell (1999) published a book review of *The State Theory of Money* in 1907. According to Ronacaglia (2006, 415), he went to Strasbourg to listen to Knapp in 1887 or later. He was surprised that Knapp would publish a book on theory after having joined the Historical School. He lauds his work, including "those quiet little satirical sallies" that were so peculiar to him. Having himself examined both pure cash and pure credit economics, he is happy with Knapp's resolution of examining paper money even though it might be viewed as a bad monetary system. Wicksell (1999, 211) presents Knapp's basic idea - "the purely formal, conventional or 'proclamatory character of money’". One thing that Wicksell deems important is that changes in the standard of payment have an effect on those who have net assets and those who have net liabilities. There is hence a distributional issue connected to the question of money.

Wicksell (1999, 216) also highlights "the question [of] whether the state, too, could make itself the central player in a giro association”, in which case the two stages passed through to date in the development of means of payment, the autometallic and the Chartal (money) would be succeeded by a third, the 'giral', possibly without the employment of any money or metal at all. Knapp answers this question “in the affirmative,” but does not go into detail nor does he recommend such a system. It does not escape Wicksell that Knapp notes dryly that "gold would ultimately be superfluous; it would therefore be possible to dispense with it completely". Written in the year of the Panic of 1907 in the US, which ultimately led to the creation of the Federal Reserve Bank System, we have here the theory underpinning the latest developments in monetary systems.[34]

Wicksell, however, feels himself obliged to distance from Knapp at this point, though again praising the first 200 pages of the book. He wonders what determines the value of money, or in modern terms, the purchasing power, both with respect to other currencies (exchange rate) and to goods and services. He is not happy with Knapp's answer to the first question and does not find the second addressed at all. Wicksell (1999, 216) emphasises "the so-called quantity theory of money, which for all its shortcomings is still probably the only possible or conceivable way of explaining the value of money". He elaborates further on why he is not satisfied by Knapp's explanation of the exchange rate mechanism. Apart from these inconsistencies, Wicksell (1999, 219) agrees with Knapp and closes his account with the comment that "in terms both of its content and its form [..] it is to be counted among the pearls of economics literature".

Joseph Schumpeter

Schumpeter (1926, 513 f.) wrote Knapp's obituary in *The Economic Journal*:

> He had a clear, I should like to say passionate, vision of the essence of things, which pierced far below the surface. He *saw* the processes and problems of history and grasped them more firmly than most men do the facts surrounding them. And he based his historical analysis on a comprehensive knowledge of present-day facts.

In the last paragraph, Schumpeter (1926, 514) mentions *The State Theory of Money*, "his most successful hit" that rose him to international fame. However, Schumpeter thinks that "it went wrong" and its influence on monetary science had been "an unfortunate one". Given that Keynes built on Knapp only in his *Treatise on Money* in 1930, Schumpeter probably gave his honest opinion about Knapp.

Schumpeter (1970, 82-86) discusses Knapp's book at some lengths. He disagrees with Knapp's theory and writes that it is not even a "fruitful error". Schumpeter argues that Knapp's theory was a "Theorie des Geldwesens", a theory of finance – however, it was no

[34] See Moen and Tallman (1999) for the connection between the Panic of 1907 and the creation of the US central bank.

such thing. As Knapp wrote again and again, he was interested in what money "is". Schumpeter is wrong then to think about Knapp's ideas as a theory of finance, and he is also wrong when he bemoans that Knapp's theory had nothing to do with the level of prices. In the English translation, the table of contents lists *§20 "Value of Money" and Prices* in the Appendices and Additions section, which has not been translated. The little chapter summary, however, has been translated and reads like this:[35]

> 'Value' always implies a comparison, and in the particular object compared with it we have an expression for the value of money. These different forms of expression are mutually independent, cannot be interchanged, and still less be regarded as one. Money can also be compared with groups of commodities, but the composition of the group must be agreed upon. Index-numbers are a welcome indication of the alterations in price of the goods contained in the group. Other groups would give other index-numbers. There are always alterations in price, due to the condition of the market. They should not be explained as showing that the value of money has altered in the opposite direction, for that would be merely tautology. As to the value of money, price statistics a help, but need an interpreter. In the case of income, 'producers' or 'consumers' differently affected by price alterations. Alterations in price not alterations of the 'validity' of a piece. The State Theory of Money to be kept separate from economic reflections on Money.

Schumpeter (1970, 85) wrongly states that Bendixen discovered his "Anweisungstheorie" (claim theory) independently from Knapp and that Bendixen would not be building on Knapp and expanding his theory towards the economic dimension. The exchange of letters between Knapp and Bendixen, in which Bendixen writes that he would be the first Chartalist, say otherwise. Schumpeter's pages on Knapp are full of scorn. No further economic arguments can be extracted from these passages.

John Maynard Keynes

According to Schefold (1987, 54), "Knapp's institutional approach and his rejection of the quantity theory [..] constituted a first step towards the later theories of Keynes and his school". Frankel (1977, ix) "emphasizes the importance of Georg Friedrich Knapp's influence on Keynes's outlook". The connection is obvious as Keynes (1930, 5) writes: "the Age of Chartalist or State Money was reached when the State claimed the right to declare what thing should answer as money to the current money-of-account – when it claimed the right

[35] Knapp (1924, xviii).

not only to enforce the dictionary but also to write the dictionary. To-day all civilised money is, beyond the possibility of dispute, chartalist."

This is why Keynes (1972) [1933, 289-297] argues very clearly for an expansionary fiscal policy in times of economic crisis: "In the field of domestic policy, I put in the forefront, for the reasons given above, a large volume of loan expenditure under government auspices." The usual counter-argument would be that government spending is tax-financed and that a raise in taxation is impossible in times of depression, but Keynes when following Knapp knows that this is untrue. As Cesaratto (2016) claims, the state spends first and taxes only later. Keynes (2010 [1928], 90-92) wrote: "The Conservative belief that there is some law of nature which prevents men from being employed, that it is 'rash' to employ men, and that it is financially 'sound' to maintain a tenth of the population in idleness for an indefinite period, is crazily improbable – the sort of thing which no man could believe who had not had his head fuddled with nonsense for years and years."

4. Knapp and Bendixen on the reception of *The State Theory of Money*

In the exchange of letters published by Singer (1958), Knapp and Bendixen – a banker from Hamburg – discuss the book reviews as they appear.[36] Bendixen discusses Voigt (1906), saying that his respect towards Lotz (another book reviewer that I did not discuss here) has increased after reading Voigt. Bendixen does not like Voigt at all, describing the review as hollow and superficial (*hohl und oberflächlich*). Bendixen believed it would be useless to engage in a controversy with him.

Having read the book review by Lexis (1906a) twice, Bendixen writes that Knapp should be satisfied. Lexis seems to be enthusiastic, and had to restrain himself when writing the book review. Apart from agreeing with the book he only adds that an economic theory of money is necessary, but that would be nothing new. Knapp agrees with this assessment and writes that Lexis is rightly named as the most knowledgeable specialist on money. The small

[36] See pages 25 (Lotz), 28 (Voigt), 30 (Diehl), 37 f. (Lexis, 1906a) , 40 ff. (Lexis, 1906b), 67 (Menadier), 71 and 121 ff. (Soda).

metallist yappers would be disgraced. Discussing the second book review by Lexis (1906b), Knapp and Bendixen agree that it is more of the same and that Lexis is a bit diplomatic by pointing out that the metallist authors write very well.

Bendixen (Singer 1958, 30) commented that the review by Diehl was written without insight and would only be of documentary value for the prejudices of that time. Knapp regards Diehl as a philosopher who regards economics as knowledge about Ricardo and Smith. New monetary orders would not interest him in the least since they are not written about in Ricardo. Knapp wonders how it is possible that people like Diehl exist in academia. Knapp recognises that his colleagues would have different “heads” than him and that one could hardly talk about common understanding.

Last, and indeed least, Knapp and Bendixen discuss Soda (1906). Bendixen writes that he flicked through the book with great discomfort. He complains that he cannot follow Soda's line of reasoning, stating his preference for simple and clear deductions. In his reply, Knapp never mentions Soda's book review.

5. Conclusion

The academic reception of Knapp‘s book on monetary theory was no surprise. Authors that belonged to the tradition of metallist thought saw the book as an interesting addition from a perspective of law that would be silent on the economic perspective. The book was belittled as a new perspective that would not be able to challenge the economists’ view of money. Voigt understood precisely that, following Knapp’s theory, the frequent defense that some policy reforms are not possible for economic reasons – read: a lack of money to spend – would fall and hence the door for progressive policies of all kinds would be opened.

The book review by Soda is something of an oddity. The author seems to have read a lot of European economic theory but was more of a philosopher than an economist. It is unclear why he opted to write two lengthy book reviews in a field that he apparently was not an expert in. His ideas are mostly unclear and his reading of Knapp is superficial, as he argues at times against positions that were not held by Knapp. As with Voigt, it is not easy to understand what an economic theory of money is and why that is incompatible with or would override the state theory of money. Soda probably sees the other functions of money as economic functions and this is why is not supportive of Knapp. However, he fails to address the deeper question of the reasons behind the use of money in the economic realm.

The reviews by Lexis are sympathetic to Knapp. Like the other two reviewers, he stresses that we need an economic theory of money to supplement the state theory of money. That economic theory of money would be a metallist theory and that would work well enough. In other words, Knapp's theory won Lexis over.

From today's perspective, it seems rather odd that two theories of money – one legal, one economic – were thought to co-exist. Wicksell (1898) had already shown some years before the appearance of Knapp's book that in order to understand money one would have to understand a pure cash economy and a pure giro economy plus the interactions of the two kinds of money. Bank deposits and central bank money circulate in parallel, and bank deposits are promises of cash, which is one form of central bank money.[37] Since the writing of Knapp's book, we have seen the use of cash and metal coins much diminished and bank deposits have taken their place. This has to a very large extent validated the ideas of Knapp, the most prominent of which is that money is what the state accepts as payment. Nevertheless, it has only recently been rediscovered that what follows from this – as correctly recognised by Voigt (1906) – is that the state as the issuer of currency need not go bankrupt if Treasury and central bank work together.

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[37] The other is reserves, deposits that bank hold at the central bank.

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