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Free Money for Social Progress: Theory and Practice of Gesell's Accelerated Money

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# **Free Money for Social Progress:**

## ***Theory and Practice of Gesell's Accelerated Money***

By JÉRÔME BLANC\*

ABSTRACT. Silvio Gesell (1862–1930) proposed a system of stamped money in order to accelerate monetary circulation and to free money from interest. This was part of a global socialist system intended to free the economy from rent and interest. In the 1930s, Irving Fisher, who proposed the system to President Roosevelt, and John Maynard Keynes rendered homage to Gesell's monetary proposals in the context of the economic depression. Several experiments took place that were based on his ideas, notably in the Austrian town of Wörgl and in the United States. These experiments were always local and never lasted more than a few months. This article shows that trust is the main issue of this kind of monetary organization; and therefore, that such experiments can only take place successfully on a small scale.

### I

#### **Introduction**

MONEY IS OFTEN THE CENTRAL POINT of theories that are designed to improve social organization. In the 1930s, the Great Depression led to a search for alternative solutions to restart the economy, or at least to slow its decline. Thousands of people proposed plans for just this purpose. Many of these plans were based on a reform of the monetary organization, and most were never actually tried.

\* [Professor Jérôme Blanc is doctor of economics and assistant at the Université Lumière Lyon-2. Centre Auguste et Léon Walras (Université Lumière Lyon 2), MRASH, 14 avenue Berthelot, 69363 Lyon cedex 07 (France). Tél: 04 72 72 64 07, fax: 04 72 72 65 55. E-mail: jerome.blanc@mrash.fr.] Blanc's work in the Centre Auguste et Léon Walras deals with monetary practices through historical and theoretical approaches. This paper is part of a work intended to give a historical interpretation of the emerging LETS (local exchange trading systems) in France since 1994. It was made possible through collective research on LETS (with Denis Bayon, Isabelle Guérin, Gilles Malandrin, Jean-Michel Servet, and David Vallat, forthcoming 1999. This chapter is based on Blanc, 1998, which describes Gesell's systems and experiments in detail).

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This was not the case with a pre-existing theory—Silvio Gesell's theory of *free money*—on which John Maynard Keynes showered fulsome praise and which Irving Fisher tried to apply in the United States. This theory was tried. Admittedly, there are key differences between Gesell's theory and the several attempts made to employ it. These differences include the fact that none of the attempts occurred at a national or worldwide level, despite the preferences of Gesell and some founders of the experiments. Moreover, the theoretical purpose of *free money* became simply the acceleration of monetary circulation, that is, *accelerated money*, thus abandoning the other dimensions of Gesell's socialist theory.

However, both these experiments and their underlying ideas stress the necessity of the quick circulation of income. It is possible to accelerate the flowering of society by encouraging the circulation of currency, that is by setting up a monetary organization that promotes what might be called *consumption money*. Money is viewed as a necessary medium of exchange, but its organization is transformed in order to suppress the disastrous effects of speculation, hoarding, and usury, which are considered to be the sources of economic crises.

The purpose of this paper is not to reappraise Gesell's theory but rather to compare his theories to some issues raised by the twentieth-century experiments. I shall also examine Gesellian socialism and the theoretical context of Gesell's monetary theory, as well as the debates and social experiments that grew from these ideas mainly in the period between the world wars. Finally, I shall discuss the practical issues that face every attempt to employ accelerated money, especially the central issue of trust, and the importance that monetary organizations remain local and confined to a single small region in order to work.

## II

### **Gesellian Socialism and Money**

SILVIO GESELL (1862–1930), BORN IN GERMANY, worked as a successful importer in Argentina at the end of the nineteenth century. He began to study economics when a huge monetary crisis occurred in Argentina in the 1880s. In 1891 he published *Die Reformation im Münzwesen als Brücke zum sozialen Staat*.<sup>1</sup> He returned to Europe and started writing *The Natural Economic Order*, a major work based on his 1891 book. It was published

in 1911, reprinted several times, and translated into several languages. English translations were published in 1929 and in 1934, the latter based on the sixth German edition.

In Europe, *The Natural Economic Order* aroused wide interest during the period between the wars. Gesell acquired many followers . . . and even more detractors. His admirers considered him a “prophet,” but among his detractors, orthodox economists in particular, he was dismissed as a “*crank*.”<sup>2</sup>

What provoked such a rejection were both Gesell’s nonacademic and deeply heterodox ideas, and his hysterical rhetoric, which was similar to that of many socialist writers. In fact, Gesell considered himself a socialist—not a Marxian, but a Proudhonian one.

Gesell was considered by some economists as a stage in heterodox economics between the monetary theory of Knut Wicksell and that of Keynes.<sup>3</sup> This was in part due to the fact that he analyzed a monetary economy and stated that economic crises have a monetary origin. The crises Gesell were interested in are deflationist ones, like the Argentinean crisis of the 1880s, which gave him the substance of his theory, and the worldwide one of the 1930s (during which Keynes wrote his *General Theory*).

Gesell’s theory was intended to change the economic organization of society and promote progress towards social justice and economic welfare, by way of *freeing* the economy and thus establishing what he called a *natural economic order*. This move towards a *free economy* (*Freiwirtschaft*) requires the freeing of land from rent and the freeing of money from interest. In an economic organization cleared of the economic privileges of landowners and moneylenders, workers would receive the whole value of their output. Competitors would then have a level playing field, and the economy would subsequently flourish.

Let us now turn to Gesell’s monetary proposal of *free money*. In his theoretical view of the economy, the stockpiling of wealth is identified as the danger to be avoided, because it stops the revenue flow dynamics. Gesell, as Keynes did some years after, denounced the hoarding of money, even as savings deposited in financial institutions, since high interest rates make loans difficult. Two key points appear here: *hoarding* and the *cost of credit*. Both blockade a part of the money supply from functioning properly.

Gesell identified the primary function of money in its circulation: economic dynamics are based on money as a *perpetuum mobile*.<sup>4</sup> Above all,

money has to have a means of circulation. How then, Gesell pondered, could the slowing of any monetary flow be prevented? An arrangement favoring monetary circulation and discouraging the stockpiling of wealth had to be set up.

It is true that many other economists developed ideas promoting the circulation function of money. Keynes, for example, advocated the lowering of interest rates. But this is not sufficient to create a monetary utopia. Gesell did inasmuch as he developed an organizational perspective on consumption money.

One can distinguish two meanings of the idea of a consumption money:

1. The quick and whole spending of money. This means that income is not hoarded during the period of production that follows its distribution.
2. The disbursement of money in the very place where incomes are created. This means that income does not get used for consumption or invested elsewhere.

It is possible to mix these two meanings, but their theoretical and practical consequences are very different. In the first meaning, one can recognize many less utopian than heterodox authors who wanted to break the cycle of hoarding and reduce the motive for saving. Keynes was among these; that is why he saw Gesell as a greater writer than Marx. Gesell advocated destroying the function of storage of wealth. This led him to advocate an accelerated money,<sup>5</sup> that is, organizing the acceleration of its circulation.

In the second meaning, the issue to solve is the localization of the formation, the distribution, and the disbursement of income. Big companies and money management induce a gap between where incomes are formed and where they are spent. This leads to projects at the local level intended to speed up the relocalization of the economic flow. This is not necessarily a return to autarky linked to fear of outside influences. In the town of Wörgl (Austria), in 1932–1933, the organization of a local accelerated money on Silvio Gesell's model was simply intended to revitalize the local economy.

Hence, a consumption money can be set up by two means: by reducing or even destroying the monetary function of store of wealth and by the organization of local and even strictly closed-region economic flows. The purpose of some monetary utopias was the creation of the first sort of consumption money, but the actual application of such a consumption money on a national scale appeared impossible and so it could only be

applied on a local scale. Hence the attempts to put in practice an accelerated money (as Gesell theorized) led to the setting up of local regional systems.

## III

**Toward the Principle of an Accelerated Money**

THE PURPOSE OF GESELL'S MONETARY THEORY was to free money from interest rates, in order to set in motion the dynamics of credit, investment, and consumption. This freeing involved an acceleration of monetary circulation, or an accelerated money.

The core of Gesell's monetary theory consists of a theory of interest. Like Wicksell, Gesell distinguishes between a monetary interest rate and a real interest rate. The second is considered by Gesell as linked to the first; hence only the monetary interest rate is of importance in his analysis. In Gesell's theory, then, the monetary domain determines the real one.

The monetary interest rate consists of three parts: a risk premium linked to the loan, a premium linked to the expected rate of inflation, and, above all, a fundamental interest rate called "tribute," paid for the natural advantage of possessing money over other goods. Gesell reasoned that the natural advantage of money is twofold: first, that money is indestructible and possessing it does not incur costs; and second, that money is the only liquid good by which everything can be obtained.

As a necessary remuneration for the advantages of money, paying a tribute establishes a lower limit to the rate of return on every business project.<sup>6</sup> This means that someone lends capital only if its interest rate is over the cost of the tribute, and that someone purchases or invests only if he expects the selling price to be over the buying price increased by the tribute. If the numbers do not add up, money will be hoarded and withdrawn from the economic flows.<sup>7</sup> Hence, the capitalist is likely to break the cycle of economic activity if he abstains from any economic action.

Hoarding then becomes the cause of economic crisis, and the natural advantages of money cause hoarding. How then to stimulate the circulation of money and discourage hoarding? The lowering of the interest rate below that of the tribute rate (estimated to be nearly 3 to 4 percent a year, according to Gesell) would be disastrous, because it would encourage hoarding outside of banks. This is the mechanism of Keynes's awful "liquidity trap."<sup>8</sup>

Gesell stated that the lowering of the interest rate at a level even above that of the tribute rate would not discourage hoarding and stimulate the circulation of money. That is why Gesell did not wish to merely lower interest rates. Rather, he wanted to *free* money from interest rates altogether. The lowering or even the abolition of interest is not a way to boost the economy but may be a consequence of its new organization.

The solution was to be found in the depreciation of money. That is the only way to pass beyond the mechanism of the tribute. Money, as we have seen, has two advantages over goods: no carrying costs and general liquidity. The first one is linked to the store of value function of money, the second to its payment function. The solution is to give money an artificial carrying cost in order to suppress the first advantage and privilege the second one. Thus Gesell proposed his famous stamped money system. Every month or every week notes lose a fixed percentage of their nominal value, for example, a weekly rate of 0.1 percent of the nominal value of the notes, i.e., a yearly depreciation of 5.2 percent.<sup>9</sup> Then, in order to maintain the value of their notes, people would have to purchase stamps every week at the Post Office.<sup>10</sup> Stamped money means that the authorities impose on money, not prices, a stable, fixed, and announced inflation.

Yet, the storage of wealth is safe in Gesell's system. While every deposit in the savings bank creates a need to buy stamps, it is always the *holder* of the notes who needs to buy them. In the case of deposits in savings banks, the banks have this responsibility. The saver withdraws his deposit at the same value he deposited it. Hence, the savings bank is stimulated to loan its funds in order to avoid this costly need. When funds are loaned, the stamps are bought not by the depositor or the savings bank, but by the borrower who holds the money. In this system, the disadvantage lies not in borrowing money, but in holding money idle.

Since it is in the interest of no one to hold notes idle, this system stimulates deposits, discourages hoarding, stimulates loans, and, finally, stimulates monetary circulation in general.

#### IV

#### **Accelerated Money Debates and Experiments**

GESELL'S IDEAS AND MILITANCY gave occasion for the birth of several groups promoting his *Free Economy*. Despite the academic rejection of Gesell's ideas, Keynes noted that many non-academics were infatuated with his ideas:

In the post-war years his devotees bombarded me with copies of his works . . . . The last decade of his life was spent in Berlin and Switzerland and devoted to propaganda. Gesell, drawing to himself the semi-religious fervour which had formerly centred round Henry George, became the revered prophet of a cult with many thousand disciples throughout the world . . . . Since his death in 1930 much of the peculiar type of fervour which doctrines such as his are capable of exciting has been diverted to other (in my opinion less eminent) prophets.<sup>11</sup>

The German hyperinflation of the twenties, the subsequent difficulties experienced in going back to the gold standard, the monetary disorders and then the great economic depression with its extraordinary unemployment in Europe and America, allowed heterodox, even utopian, ideas to flourish. Debates on Gesellian ideas occurred in the context of the lack of money in Europe from the beginning of the First World War to the middle of the twenties, and in the context of the depression of the thirties. Gesell's ideas were well discussed in Germany, France, Switzerland, Great Britain, Austria, and the United States long before people experimented with their practical application (Blanc, 1998).

The birthplace of the debates was Switzerland, where Gesell settled in 1900. Dr. Theophile Christen, Fritz Schwartz, and Gesell created in the 1910s the *Freiland- und Freigeldbund*, an organization intended to promote a free economy. They were supported by the Popular Socialist Party. The free economy projects were discussed in 1923 at the Monetary Conference convened by the Federal Council.

An engineer and friend of Gesell, Hans Timm, founded the first experiment with stamped money. It occurred in Germany in 1930, and was based on an exchange bank and stamped notes called *wära*.<sup>12</sup> Soon the government argued that this system was hurting the issuing privilege of the Central Bank and creating a risk of inflation. The government lost a court case against the experiment, but eventually banned by decree the use of this sort of money in October 1931.<sup>13</sup>

Perhaps the most important experiment with accelerated money took place in Wörgl, a little town in Austria, in 1932–1933.<sup>14</sup> It is still considered today to be the seminal experiment of its type. Founders of LETS (Local Exchange Trading Systems) all over the world frequently refer to Wörgl in order to outline the historical context of LETS, despite the absence, today, of any accelerating system of exchanges derived from Gesell's ideas.

Wörgl was an impoverished town of 2,000 inhabitants, within its borders



there were 1,500 unemployed. Moreover, the town was in a state of bankruptcy. In July 1932, its mayor, Michael Unterguggenberger,<sup>15</sup> set up a system of stamped notes called “labor notes” of one to ten Austrian shillings that were issued by the municipal office. Every month, holders of labor notes had to buy stamps of 1 percent of their nominal value to maintain the notes. The notes issued were totally backed on a shilling reserve. The municipal office paid a part of the salaries of the municipal employees. This stamped money circulated in the town and the neighborhood, people trusting in their final reception by the municipal office which received them in payment of taxes at par with the Austrian shilling. Moreover, it secured the convertibility between the stamped notes and the Austrian shilling, taking a 2 percent duty.

The currency movement in Wörgl sharply accelerated.<sup>16</sup> Some paid their taxes in advance to avoid buying the stamps. The financial situation of the town and the local economy recovered. The municipality even hired some workers to perform public works projects. The principle of savings was safe with a system of deposits, and currency depreciation ended. However, in spite of the apparent success of the system in Wörgl,<sup>17</sup> and the desire of many other towns to set up similar systems,<sup>18</sup> the Austrian government, goaded by the National Bank of Austria, banned the system of local stamped money in September 1933.<sup>19</sup>

In the United States, some debates on and experiments with stamped money occurred in the thirties. In addition to Keynes, it seems that Irving Fisher was the only other famous economist in this period who observed and encouraged experiments with Gesell's theories, especially the Wörgl one. Fisher even wrote a book titled *Stamp Scrip* in 1933. However, this aspect of Fisher's works has been blotted out of the collective memory of economists.<sup>20</sup>

In the context of the American deflation at the beginning of the thirties, Fisher proposed to set up a temporary but nationwide system of accelerated money, wherein depreciation would be 2 percent per week. He wanted the velocity of money to accelerate, and prices to rise.<sup>21</sup>

Fisher tried unsuccessfully to convince the future President Roosevelt (who was at that time running for office) of the value of experimenting with Gesellian theories and other unorthodox projects designed to boost the economy.<sup>22</sup> A bill intended to allow the government to issue stamped

money for a predetermined period of the deflationist crisis was brought to the US Congress, but it did not pass.<sup>23</sup>

Yet around 1932–1933, on the basis of the Wörgl experiment, some fifteen towns set up a system of stamped money.<sup>24</sup> Generally, the issued notes were not backed on an equal dollar reserve, but the necessity of paying stamps of 2 percent of their nominal value every week constituted the reserve. In one year, a reserve of 104 percent of the nominal value of the issued notes was in place. There was a strange system of paying stamps at the time of every exchange, not at every fixed period of one week. This had exactly the opposite consequences of an accelerated money system, since people were then encouraged to hold their notes or to barter exchange to avoid paying any duty. Fraud was rampant. Some private organizations (chambers of commerce, groups of tradesmen) also set up such a stamping system.

There were some other experiments outside the U.S. as well. In Alberta, Canada, William Aberhart, disciple of Major Douglas, founder of the theory of social credit,<sup>25</sup> applied a similar system, which soon failed. In Great Britain, Henry Büchi unsuccessfully tried to advance the principle of stamped money. In France, men such as Jean Barral, Pierre Mouton, and Marino-Bertil Issautier advocated in favor of stamped money systems. An experiment occurred two years in Nice, France in the thirties, but the government, on the advice of the Banque de France, soon banned it. Nevertheless, a deputy had proposed a bill to create just such a system<sup>26</sup> and in 1933, Edouard Daladier, President of Council, proposed such a system at a Congress of the Radical Party. (However, he only provoked an outcry.) In 1937, a new project was submitted to the Radical Party for the financing of large-scale public works by the issuing of a stamped money not backed by preliminary reserves.<sup>27</sup> New debates on stamped money also occurred during the war. After the Second World War, two small French towns set up systems of stamped money, but the founders of the systems decided to stop them before the government stepped in.<sup>28</sup>

## V

### **Trust and Accelerated Money: The Practical Limits of the Gesellian Utopia**

THE EXPERIMENTS WITH GESELLIAN THEORY IN THIS CENTURY do not provide any evidence as to how an accelerated money system would work over

two or three years. None lasted more than a few months. Moreover, they never occurred on a large scale, but always on a local regional scale. The attempts to create *free money* were never linked with an attempt to set up a *free economy*, as Gesell theorized.

Hence, the Gesellian theory of freeing money from interest and accelerating monetary circulation generates some questions concerning its viability and the proper way to set up such a system. At the root of its technical problems, trust remains the main issue.

We saw that the acceleration of monetary circulation was induced by the regular depreciation of the nominal value of the means of payment. The main issue of this way of accelerating the currency is its effect on people's behavior.

Generally, the acceleration of the monetary circulation comes from a depreciation of the money supply, or from a loss of trust precisely linked to the depreciation of money. One can see there the beginning of an inflationist or even hyperinflationist process. Hence such an organization of the acceleration of currency is dependent on people having confidence in the value of their money. If this trust does not exist, there is a great risk that monetary substitutes will appear in order to avoid using money whose nominal value has to be maintained—inconveniently—by costly stamps.

In order to maintain consumer confidence, the accelerated money system needs, from a technical point of view, to announce and plan the regular depreciation of money and to insure that there will be no effect on prices. Moreover, it has to lock in the payment system so that there is no easy possibility of substituting a stable money for the depreciating means of payments.

Indeed, the inherent problem with Gesell's system is the existence, in modern economies, of different means of payment. In Gesell's system, only one sort of means of payment exists (stamped notes) since deposits cannot be used as bank money. Yet neither in Gesell's time nor today is this assumption realistic. If bank money does exist, it can replace the stamped notes, not only as a store of wealth, but also as a means of payment, since bank money is not saddled with carrying costs.

That is why Keynes wrote that the system of stamped notes "*would clearly need to apply as well to some forms at least of bank-money*"<sup>29</sup>. The recent proposals derived from Gesell's ideas take this issue into account. Every agent would have two accounts: one current account assigned to bank payments and bearing the depreciation of money, and one account

assigned to savings, not allowing bank payments and preserving the stability of currency value<sup>30</sup>.

Such a system is likely to succeed so long as the following conditions are fulfilled:

1. The system has to have strict regulations forbidding the use of substitutes to the depreciating means of payment. The lack of control over such substitutes would lead to the destruction of the accelerated money system by the behavior of agents looking for stable means of payment. However, Keynes stated that, in contradiction to Gesell's assumption, there is a continuum of variously liquid assets able to serve as money substitutes<sup>31</sup>. From a theoretical point of view, this is enough to destroy any attempt to set up an accelerated money system. It seems that this difficulty prevents this sort of project from being set up on a large scale.
2. Actually, trust is the key to the system. Trust is enough to let it succeed, and the lack of trust severely endangers its success.

On a large scale, an accelerated money system is likely to last only if a complete shift in thinking occurs. Such a revolution would allow a transformation of the economic system. This necessity of a revolution in thought is another way to say that trust is necessary to the system, but that trust in such a system is quite unlikely to appear in a normal context on a large scale.

We can observe that the attempts to put stamped money systems into practice occurred in very specific contexts. The example of Wörgl's stamped money shows that the survival of such a system requires a united, small, and compliant population, who are fully aware of the advantages of such a system. Hence, in Wörgl, before paying a part of the salaries of the municipal employees with the stamped notes, the employees agreed to be paid with this money<sup>32</sup>. This means that an accelerated money system would probably be viable on a small scale only, and, on a larger scale, for a limited time only and under conditions attractive enough to incite the whole population to play the game<sup>33</sup>.

## VI

### Conclusion

ANY EXPERIMENTS WITH ACCELERATED MONEY seem doomed to stay local, that is, in a network limited by space and/or purposes, whose participants trust

themselves and the monetary authority. The necessity of a voluntary adherence to a network serves to limit the scale of such an experiment and to make new members alert to the consequences of internal money.

Hence, it appears that any attempt to set up an accelerated money system (the first sort of “consumption money”) will eventually lead to a local currency (the second sort of “consumption money”).

In the context of the rising poverty and unemployment in Europe in the eighties and nineties, the ideas of a free economy and especially of free money are back. Organizations promoting the sort of economic order Gesell theorized still exist in Germany and Scandinavia, as well as Great Britain and Mexico. New debates about the concept of accelerated money are also focusing on how to manage an economy in an ecologically sound fashion.<sup>34</sup>

Though local currencies were not born in Wörgl, the experiment with them there served as a reference long after it was banned. Today, many experiments with local currencies hark back to Wörgl, even when they are not accelerated in a similar fashion. Two kinds of local currencies may be distinguished: currencies used in towns, and currencies used in small, closed groups. Local currencies, such as Ithaca Hour, were recently tried out in nearly forty U.S. towns.

Despite many differences, Local Exchange Trading Systems (LETS) are based on similar purposes. These small, closed groups have developed all over the world since 1983. More than 1,000 LETS exist today, counting more than 50,000 members around the world. LETS make hoarding both impossible and undesirable. The only wealth in such systems is in the capacity of exchange (knowledge, goods, services), and debit accounts are an accounting necessity. LETS attempt to recreate a social cohesion on a local scale on the basis of a compensation system of personal accounts. One notable example of a LETS, that of Saint-Quentin en Yvelines, France, has been creating a sort of accelerated money by a system of taxation on positive accounts, a peculiar system that applies some Gesellian ideas.

### Notes

1. See *Currency Reform as a Bridge to the Social State*, which Philip Pye translated into English in 1951.

2. Keynes, in *The General Theory of Employment, Interest, and Money*, wrote, “Like other academic economists, I treated his profoundly original strivings as being no better than those of a crank.” See also Herland, 1992. In the many histories of economic analysis that exist today, it is very rare to find more than some indignant sentences on Gesell—and

it is likely that no one would remember Gesell's name and theories if Keynes did not write about them (Keynes, 1936, pp. 353–358).

3. See Herland, 1992. Dillard considered Gesell as a step between Proudhon and Keynes. Herland stresses that this was just a step that Keynes easily topped. Only Ludwig von Mises seems to place Gesell above Keynes, but this might be linked to his rejection of Keynes, more than his acceptance of Gesell's theory.

4. See Herland, 1977, on Boisguilbert, Proudhon, and Gesell.

5. We will employ this term rather than Keynes's "stamped money," since it is more precise. The purpose of the stamping system is the acceleration of the circulation of money.

6. Gesell, 1948, pp. 172–175. Some years after, Keynes found in it a proof for his concept of the marginal efficiency of capital.

7. Gesell's idea implies that the buyer (in his mind, a capitalist) is able to wait before buying because money has no carrying costs, while the seller has to sell quickly because of the carrying costs of his goods. Many authors considered that the buyer has an advantage over the seller, without developing such a tribute theory. See, for example, Simmel, 1978, p. 214, or Keynes, 1936, pp. 225, 355–356.

8. Compare Gesell, 1948, p. 191, with Keynes, 1936, p. 207.

9. The different editions of the *Natural Economic Order* give different periods and different depreciation rates. The book was translated into English by Philip Pye and published in 1929, 1934, and 1951. Keynes read the translation of the sixth German edition, which, with the seventh one, shows a weekly depreciation of 0.1% (5.2% a year). See Keynes, 1936, p. 357. The French edition, based on the eighth German one, shows a monthly depreciation of 0.5% (6% a year). See Gesell, 1948, p. 213, and the notes of the translator. In any case, these depreciation rates are justified by Gesell's assessment that hoarding disappears once inflation reaches 5%. See Gesell, 1948, p. 184.

10. See Gesell, 1948, p. 213.

11. Keynes, 1936, p. 354.

12. *Wära* means *Ware* (commodity) and *Währung* (circulation).

13. Delannès, 1938, pp. 64–65.

14. See Baudin, 1947, pp. 335–339, Delannès, 1938, and the review *Annales de l'économie collective*, 1934.

15. Unterguggenberger had been a trade unionist in the Social Democrat Party. He refused to be considered a Marxist. Moreover, the social democratic government of the Austrian Tyrol region refused his experiment as not being consistent with the party's projects. See Delannès, 1938, pp. 66–68.

16. According to Kennedy, 1996, the 32,000 shillings issued were exchanged 463 times—generally 21 times with the Austrian shilling.

17. Beyond the idyllic views of the effects of the system, one can stress that this was a singular experiment. One may stress, along with Baudin, 1947, p. 338, or von Muralt, 1934, that the recovery was partly due to the flow of tourists visiting these towns to see and buy the stamped money.

18. It seems that 170 Austrian towns (including Innsbrück) were planning to set up such a system, but they were waiting for a decision on the legal action against Wörgl.

19. See von Muralt, 1934, pp. 321–322.
20. For example, Schumpeter, 1954, was silent on this matter. The paper of the *New Palgrave* on Fisher too, though it is rather exhaustive, also does not mention these proposals, studies, and book of Fisher.
21. See Fisher, 1933.
22. Barber, 1996, p. 17.
23. Delannès, 1938, pp. 99–100.
24. The towns were mostly in Iowa, Kansas, Minnesota, Oklahoma, California, Nebraska, and Illinois. The largest town was Knoxville, Tennessee. See Fisher, 1933, Delannès, 1938, pp. 82–100, and Baudin, 1947, pp. 336–337.
25. See Keynes, 1936, pp. 370–371, Baudin, 1947, pp. 621–624, and above all Pullen and Smith, 1997.
26. See Baudin, 1947, p. 339.
27. Delannès, 1938, p. 101.
28. See *Science et vie*, no. 458, 1958; Cotten et al., 1996, pp. 31–34; and the current works of Smaïn Laacher.
29. Keynes, 1936, p. 357.
30. Kennedy, 1996, p. 47.
31. Keynes, 1936, p. 358.
32. Von Muralt, 1934, p. 316.
33. See Fisher, 1933, p. 59.
34. Margrit Kennedy, for example, is the German author of a book entitled *Freeing Money from Inflation and Interest Rates*. In it, she proposed a transformation of society by means of monetary, land, and fiscal reforms. See also, for example, Cotten et al., 1996.

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