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'MONETARY PLURALITY' AND 'CURRENCIES FOR AN ALTERNATIVE ECONOMY': TWO PARADIGMS OF COMPLEMENTARY CURRENCY RESEARCH

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ABSTRACT

Many practitioners and researchers in this field consider money to be the centrepiece of complementary currencies. This paper identifies a second line of thinking, through which the discourse on an 'alternative economy' had a significant influence on the development of these social innovations during the 1980s and 1990s. This article discusses two questions: The first one concerns the influence of, and the relationship between these two lines of thought. A monetary focus gradually superseded earlier interpretations of these systems and eventually occupied a dominant position. Is there sufficient common ground between researchers of cryptocurrencies and traditional complementary currencies to share a single discourse network? The second question concerns the potential of local currencies with strictly limited convertibility. Against the background of an impending recession this article offers a perspective of how newly designed complementary currencies can become viable elements of an alternative economic structure beside the capitalism economy.

KEYWORDS

Complementary Currencies, Monetary Diversity, Alternative Economy, Money, Boundaries.

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1. INTRODUCTION

For many years, the meaning of the terms 'community currency' or 'complementary currency' (henceforward CC or CCs) was rather unproblematic. It was a little like talking about elephants. There are Asian and African elephants, as well as some extinct species. Where the latter are concerned, mammoths spring to mind for lay people, whereas zoologists would add that there are other species. However, on the whole an elephant is always an elephant. The same applies to timebanks, local exchange trading systems (LETS) and regional currencies, in the sense that the classification of these and many other CCs was more or less undisputed. The Austrian town of Woergl is a classic example of a historical CC which printed its own money in the early 1930s, but specialists would emphasise that there are other, perhaps more significant, variants.

This paper questions whether there is still consensus on this in the wake of cryptocurrencies and other forms of 'monetary plurality' (Gómez 2018b). These developments should be considered against a background in which the classic CCs are no longer as popular as they have been in the past. An empirical study of 30 Netherlands-based CCs confirms this observation. The authors of this study, van der Linden and van Beers (2017, 317-318), see potential in applying new technologies in the way they have been used to create cryptocurrencies. They add that the latter may not qualify as social innovation, which is expected to address social and environmental problems (van der Linden and van Beers 2017, 314f and 317).

This introductory overview explains the need to develop a better understanding of the variety of non-official currencies. As the title of this paper suggests, the author juxtaposes two frameworks —'monetary plurality' and 'alternative economy'. This article involves a critical review of the relation between these two elements. Both phenomena already exist in reality, although they are of marginal importance. They also exist as aspirations to develop something which is economically important—'alternative economies' as viable economic structures besides capitalism. With regard to aspirations to develop complementary currencies into structures of 'monetary plurality', this article uses also the term 'monetarism.' This notion refers to contributions to the discourse about complementary currencies that consider money as the lynchpin of these systems. (The term does not refer to theories which argue in favour of tight controls of the money supply by governments and/or central banks.) This paper will clarify the meaning of these terms in more detail. This applies also to the attribute 'social', which is sometimes used in connection with CCs (Blanc 2018, 6).

More specifically, the author poses the following research questions. Did the alternative economy approaches and the focus on monetary aspects develop side by side or in competition with one another? Did they mutually stimulate each other? To what extent did they overlap? Is there sufficient common ground between researchers of complementary and other alternative currency systems to allow them to cooperate as one research network? In how far is the attribute 'social' justified—do CCs contribute to objectives such as social justice and the harmonization of economic and ecological interests?

The author considers a discussion of all these questions to be particularly relevant in the wake of new technologies which promise to boost the progress of complementary and other alternative currencies. In times of change, it is important to re-examine one's own roots and the transferability of experiences and values. This also applies to a community of researchers. This overview indicates that this contribution presents a broad perspective on CCs. Drucker (1993, 176) stresses the importance of seeing "both forest and tree," and this overview offers perspectives on two different types of forest, so to speak. Equally, references to detailed empirical investigations (the 'trees') substantiate the arguments presented. This work is based on an extensive study of the relevant literature.

The main objective of this undertaking is to contribute to the development of an academic discourse structure for studying CCs which encompasses all lines of thinking. The present author declares that he is not a neutral observer of discussions on this topic, as he was involved in establishing the above-mentioned academic infrastructure. He has had an interest in this field of research since 1987, and has contributed a number of publications, some of which were critical of an overemphasis on monetary aspects in analysing CCs.

Sections 2 and 3 shed light on different meanings of the term 'alternative economy'. The next section begins the study proper by providing an overview of the history of thought as it has developed since 1986. This is followed by a review of sources which highlight qualitative differences between exchange relations in different currency systems. Section 4 discusses 'monetarist' approaches, implicitly acknowledging contributions from researchers who adhere to this line of thinking. There then follows a discussion of cryptocurrencies and concepts of monetary plurality. This involves a review of the different levels of understanding of the functions of money. Section 5 offers a comparison of the two approaches with respect to 'alternative economic' frameworks, such as the concepts of a social and solidarity economy. This discusses questions such as the relationship of CCs to other elements of these frameworks, and the prospects for financing the operation of alternative money systems.

2. PERCEPTIONS AND INTERPRETATIONS OF CCS: A SHORT REVIEW OF DEVELOPMENTS SINCE THE EARLY 1980S

Narratives about the origin of CCs usually begin with descriptions of timebanks and LETS. This is certainly correct, although it could be added that there had been other exchange schemes which used time as a measure of value before Edgar Cahn began developing the timebank concept in 1980 (Offe and Heinze 1992, 102-153, in particular 103; Miller 2008 on separate sources of development in Japan). LETS was invented on Vancouver Island in Canada in 1983 (Petersson 1990). The founder, Michael Linton, adopted the model used by commercial barter systems. In contrast to this blueprint, he did not restrict the circle of participants to businesses, but also involved private individuals. Over the next two decades, LETS became the most prominent prototype for new CC schemes like the French S.E.L. and the German Tauschrings, and even the Italian Banche del Tempo adopted this concept (for the latter, see Amorevole 1999, 13f). However, Linton's original idea of involving professionals and private individuals in one system did not work, as the latter group bought more than they sold. Since the unit of account was not convertible into national currencies, this led to extensive imbalances between credit and debit, and ultimately to the collapse of these systems, as demonstrated empirically by Jackson (1997). Both innovators retained a monetary concept by designating their currencies 'Green Dollars' (LETS) and 'Time Dollars'. Cahn introduced the label 'timebank' many years later. At the international level, LETS gained prominence, particularly after Linton presented his model at 'The Other Economic Summit (TOES)' conference in 1984. Publications which spread information about this social innovation also addressed monetary aspects (see documentation from the TOES summits in 1984 and 1985 by Ekins 1986, 196–209; Dauncey 1988, 50–69; Dobson 1993; Lang 1994; Solomon 1996; for an overview of this early development of LETS, see Douthwaite 2002, 130–163).

Some of the early academic works in this field place very little emphasis on the issue of money. Offe and Heinze (1992), whose work Gomez (2008, 84) suggested "everyone interested in the topic has read", embedded their contribution in the German alternative economy discourse. Heinze had already contributed to this discourse in his earlier work (see, for instance, Heinze and Olk 1982). An anthology published in German provided supplementary materials to their main work 'Beyond Employment' (Offe and Heinze 1982). Alongside material on LETS and timebanks, this included articles about a 'dual economy', i.e. a perspective of developing socio-economic structures at the interstices between formal and informal economies (Heinze and Offe 1990). Other authors who had their roots in the alternative economy discourse included Schröder (1992) and Williams in the UK. In a number of publications, Williams highlighted the potential of LETS as a form of work beyond formal employment (see, for instance, Williams, Aldridge, Tooke 2003, 151f).

In the same way, many activists did not consider money to be the key element of these systems. In many parts of the world people only knew different variants of LETS, so translations of the word 'exchange', like 'Tausch' or 'Trueque', were often used not only to designate specific types of LETS-type systems, but also as a general term for these systems. In the English language, this was not an option because the term 'barter' was associated with commercial systems, and the term 'truck' had a negative connotation, as it had historically been used in exploitative systems. (In this context, see North 2007, 149, who criticises the use of the term 'barter' with respect to multilateral exchange systems such as the Argentinian Trueque). This could explain why the terms 'community currency' and later 'complementary currency' were introduced in English.

In 1983, Onken heralded a new stage in the development of CCs. In an article (Onken 1983) first published in German and later translated into other languages, he recalled monetary experiments by followers of Silvio Gesell in the late 1920s and early 1930s. This publication had enormous repercussions (see, for instance, Schuldt 1997, who propagated these ideas successfully in Latin America). In Germany, proponents of this line of thinking had developed a modified form of LETS which included a 'demurrage', a fee for the holders of a currency (Estermann 1994). The purpose of this mechanism was to stimulate turnover, but it was sometimes perceived as a 'magic wizard' (a term sometimes used by Kennedy, as in Kennedy and Lietaer 2004, 209). This, however, was not generally accepted, and led to conflict (for an example from Germany, see Tauschmagazin 2003, 1f). In the meantime, new types of CC had emerged using scrip. Ithaca Hours and the Argentinian Trueque systems produced colourful notes, and therefore incorporated what many people considered to be an embodiment of money.

Regional currencies represent an attempt to integrate private consumers and 'prosumers' (businesses and their employees) into one system. The founders cut the Gordian knot by abandoning the principle of non-convertibility. Some, like the German Chiemgauer, maintain a small threshold by charging a fee to businesses which convert regional currency into Euros, whereas the Bristol Pound is freely convertible into the Pound Sterling. With regional currencies, CCs began to be seen as a money system. Nevertheless, the focus on regional economic circuits in German regional currencies meant that they maintained the elements of an alternative economy in terms of their structure (see Thiel 2011, 177, 182f).

In contrast, timebanks developed in an entirely different direction. Cahn initially considered his concept a new form of money (Cahn 2000, 5; see also Cahn and Rowe 1992, 26–30), but later came to the conclusion "that Time Dollars aren't really about money" (Cahn 2000, 12). Instead, he added his voice to the chorus of those who emphasised the relevance of the non-market economy (Cahn 2000, 32) or, as he called it on other occasions, the 'core economy' (Cahn 2001, 2). Both activists and researchers in this development branch envisaged "economie senza denaro" (Pittau 2003, the title of an Italian book), i.e. economies without money.

The demise of the classic LETS system does not mean that CCs in the form of business-oriented closed circuits ceased to exist. The Swiss Wirtschaftsring (WIR) has a unique structure, which is quite different from commercial barter systems and has a long record of economic success. However, this system has a number of defects. At present, it is clear that the mechanism for creating alternative money by providing loans at reduced interest rates does not work in a macro-economic environment with an interest—rate level close to zero. Schroeder (2019) describes other defects of the WIR which disqualify it as a blueprint for developing other CCs, but also shows that there is a lot to learn from the WIR experience. A few years ago, the WIR experience inspired a group of activists from the Italian island of Sardinia. They founded Sardex, a CC with a different organisational structure to the WIR. These cases show that the development of multilateral exchange systems whose currency is not convertible is still an ongoing process.

3. CCS WITHIN THE WIDER CONTEXT OF AN 'ALTERNATIVE ECONOMY'

3.1. First steps towards a definition

Haase et al. (2017, 60) considers social and ecological values to be the driving force for developing alternative economies. A number of empirical studies confirm this observation with respect to motivation in terms of participating in CCs (for example, Degens 2018, 285-300; Thiel 2011, 234f, 260-265; North 2007, 90-93). This raises the question of whether, and to what extent, this led to viable alternative economic structures. To what extent were theoretical concepts in academia helpful in institutionalising CCs?

Many discussions about CCs involve theoretical frameworks which provide an overall picture of what is termed here the 'alternative economy'. The most important of these are probably the concepts of a 'social and solidarity economy'. Based on the older tradition of a 'social economy', this is institutionally well-established in France and provides firm ground for activists and researchers like Blanc (2010). The focus by the French on 'monnaie social', on the social aspects of CCs must be seen in this context. This, however, is not the case anywhere (see in this context the comparisons between Germany and France by Keller 2017 and Birkhölzer 2015). In Brazil, the Banco Palmas project can be seen as a Brazilian variant of the social and solidarity economy. This experiment is particularly interesting because it combines CC, micro-finance and other elements such as vocational training (see França Filho 2013). Another theoretical framework which envisions economic structures beyond capitalism is the 'diverse economy' approach of Gibson Graham (2006 (1996)). In terms of CC research, the latter served as a major reference for North (2013, 1, 3). Degrowth conferences include presentations on CCs, as well as other elements such as contributions on common-pool resources, micro-finance and the relevance of co-operatives. In this context, transition—

town initiatives play an important role (see Longhurst's analysis of the Totness Pound, published in 2012). This list is not complete. Other aspects might include CCs and the subsistence economy, the share economy or the economy for the common good, to mention just three more examples. This brief overview illustrates that approaches to this issue are far from homogenous. Factors such as the geographical background of an author, and his or her ideological preferences, influence which approach they take. To build a more comprehensive picture, the next subsections will discuss how CCs became an important element in alternative economic structures.

3.2. The economic rationale of unused capacities

Time credits, Green Dollars and WIR Francs are currencies, although this is just part of the story. A characteristic of all these systems is that a participant must become a member, and the membership is restricted in one way or another. For example, only small and medium-sized businesses (and their employees) are, in principle, eligible to become members of the WIR. Broadly speaking, this type of exchange system allows a more effective use of idle capacities. This feature becomes relevant in times when the established economy is in crisis, and is particularly important for the building sector (see the analysis of the WIR by Studer 2006, in particular p. 23, and Schroeder 2019). This is important, because the rise of CCs coincides, to some extent, with crises in the capitalist economy (in terms of the WIR, see Stodder 2008). For restaurants, hotels or cinemas, i.e. businesses which have considerable capacity to meet peak demand, it is an alternative to sales. In the light of these considerations, it is certainly appropriate to interpret systems like LETS, timebanks, the Swiss WIR, and others as more than mere currencies, in the sense that participants enter an exchange mechanism which constitutes an alternative to the capitalist market. This does not apply to systems with convertible currencies and local currencies like the Chiemgauer with weak restrictions on convertibility. The latter depend on a constant influx of vouchers acquired by private consumers. Assuming that this form of private consumption will decrease during a recession (as private consumption does in general) the quantity of money in local currency systems will diminish, not increase. However, the economic rationale of making better use of unused capacities does not offer a full explanation for the potential of such systems.

3.3. From the 'informal' towards a 'dual economy'

In the 1970s, the 'informal economy' became an issue. The phenomenon first became popular in the Global South (Hart 1973; it is also worth considering an earlier publication about a dual economy by Lewis 1954). A number of conferences and research publications discussed a wide range of topics such as the shadow economy, do-it-yourself activities, voluntary work and housework. At this point, it will be helpful to take a closer look at the alternative economics tradition which, as shown in the previous section, has had a significant influence on how CCs have been viewed. Exploration of new forms of economic activity gained momentum in the 1970s and 1980s. At first glance, this may appear to be a reaction to the economic crises which had hit capitalist economies after many years of prosperity, but it was more than this. It was a departure from the belief that economic production should take place in large-scale units, where consumers become passive recipients of the goods produced either in capitalist or communist factories. "Small is Beautiful" (Schumacher 1974, title) and other contributions paved the way towards a new era. A good illustration of this spirit of economic modernity can be found in an article written by the philosopher Bertrand Russell in the 1930s. He envisioned an architecture of the future where people would live in big apartment blocks with hardly any facilities for private cooking (Russell 1976 (1935)). However, Russell's vision was not translated into reality. Well-equipped kitchens tend to have a prominent place in private households. On the other hand, Russell was not completely wrong. Industrial products, such as so-called convenience food, have become more and more important in both private households and restaurants. It is beyond the scope of this article to explore the various aspects of this fundamental change within capitalism. It shall suffice to refer to an article by Keynes (1931), who envisaged at that time that the conventional economic problem—i.e. the satisfaction of material needs would be solved—but that this would imply new challenges.

This discourse consisted of elements at the fringe of capitalist economies, such as new types of enterprise and the incorporation of low-productivity jobs. The latter aspect became important because the workforce became far less homogenous than Russell had expected. One stream of research pursued the ambitious objective of discovering what these different elements had in common, and pulling together the different threads to establish a second sector alongside the established capitalist economy (for an overview of the literature, see Huber 1984, 60-67). Interestingly, some ideas in this discussion appear as precursors of the alternative currency movement, which developed in subsequent years. Rosanvallon, for instance, envisaged the establishment of autonomous local and regional markets which would complement the established global economic system (Rosanvallon 1979, 218, 220). This line of thinking fell from prominence in the late 1980s. Huber, previously a protagonist of this discourse, conceded that the approach did not develop beyond a "conceptual tutti-frutti" (Huber 1993, 239). Other theoretical frameworks appeared to be better suited to interpreting the different elements of the emerging alternative economy.

As mentioned in Section 2, some of the early authors in the field of CC research have their roots in this line of thinking. Schröder (1992, 111-116) offered a vision for a 'dual economy' (see also Schroeder 2000, with a summary in English). The author interprets the dominant part of the dual structure, i.e. the capitalist economy, as a global entity. It is normally impossible for economists to go beyond this "world interior of capital" (a term used by the German philosopher Sloterdijk 2013, part of the title). Theoretically, Schröder proceeds from a critical analysis of neo-liberal concepts of economic rationality, in particular consumption theories. A fundamental feature of these theories is the distinction between production and consumption, a distinction which, at the macro-level, is also essential for calculating gross domestic products. Schröder argues that a CC (here, a system with a currency whose convertibility is strictly limited) constitutes an economic entity which is, within the logic of this framework, separate from the interconnected worldwide economy. In practice, such an alternative reduces social dependency on the forces of world capitalism. This perspective of a 'dual economy' is, according to Schröder, a way of reducing complexity (Schröder 1992, 115 refers to Luhmann's sociological systems theory, among other sources). This interpretation of the 'dual economy' approach places different neo-classical consumption theories in a historical context. The classic versions of neo-classical consumption theories, as developed at the end of the 19th century, ignored the factor of time, but time plays a prominent role in the work of later economists such as Gary Becker. According to Schröder (1992, 52–56), this development in the history of thought reflects a shift in emphasis of consumer demand from the scarcity of goods to the scarcity of time. In a wider sense, it shows the evolution of the global economy from a system geared to overcoming material scarcity to a system where patterns of consumer demand are determined by material abundance (Schröder 1992, 52-56, 78 and 84-89). The title of a book by Novo (2011), "Vivere slow", encapsulates the vision for an economy beyond a scramble for material goods, which results in a lack of time. One of the examples cited in this book involves the Banche del Tempo (Novo 2011, 77–80).

Schröder considers these forms of local economy (nowadays known as CCs) a viable complement alternative to capitalist markets because they are better suited to meeting new forms of demand, such as regional organic food (Schröder 1992, in particular 111–116). In this context, he mentions the relevance of labour-intensive work (Schröder 1992, 31, 36), but does not elaborate this aspect theoretically. In this sense, the cost-disease model (Baumol and Bowen 1966) could prove useful. This theory suggests that jobs which do not actually benefit from increased labour productivity tend to produce comparatively low incomes. In simple terms, it would be logical for, say, a bicycle mechanic and a hairdresser to trade their services in an alternative economic system. This aspect requires further empirical investigation. In short, a second aspect, beyond making better use of idle capacity, helps explain why people and/or businesses resort to CCs.

3.4 CCs as 'finite systems': the relevance of boundaries

This second reason why people take part in CCs may involve the fact that exchange values in CCs are qualitatively different from those in the established economy. As an aside, it is worth noting that there are qualitative differences within a CC and between different CCs. The latter type forms an obstacle to system-building (as described by North 2014, 185). At this point, however, it will be useful to explore the evidence for qualitative differences in general. This phenomenon is most obvious in timebanks. People doing voluntary work in these systems receive time credits, but for many of them it is very clear that this is quite different from a payment in national currency. A volunteer from New York City said, 'For 10 dollars an hour, I wouldn't do it' (Cahn and Rowe 1998, 43; see also the empirical survey of German Seniorengenossenschaften by Köstler and Schulz-Nieswandt 2010, in particular 88f). This also applies to reciprocity systems. Even a business-oriented CC, where the value of the alternative currency is equal to the value of the national currency, only uses this parity as a numeraire. A bicycle mechanic and a hairdresser, to take the example from above, as well as others with similar jobs, form a multilateral exchange system because they need terms of trade which reflect the specific modes of production of these participants.

Interestingly, this phenomenon has not only been observed by researchers in the 'alternative economics' line of thinking. Zelizer (1989) provides rich evidence of qualitative differences between various forms of money. She turns against the image of money as something 'colourless', as depicted by Simmel at the beginning of the 20th century. With reference to Schröder's comment about Simmel (1992, 71, in particular the related note 9 on page 131), it could be argued that the observations of both authors are correct, and that they reflect the situation at different points in time in the evolution of the capitalist system.

The emphasis on qualitative differences between economies and /or currencies leads to another significant aspect of common ground between the 'dual economy' and the Zelizer approach. Schroeder (2002, 8) interprets CCs as 'finite systems', systems which operate within boundaries. Later, Zelizer (with Tilly, 2006) demonstrates the relevance of boundaries for LETS. They suggest that this aspect affects the range of goods and services traded, their pricing and the exclusion of participants. Furthermore, it explains conflicts between activists in terms of sealing these systems off from the capitalist economy, or incorporating this type of circuit into the established economic system (Zelizer and Tilly, 2006, 2, 4, 5). Zelizer and Tilly substantiate their argument by referring to an article by Abbot (1995) involving a number of theoretical contributions on social boundary processes and other aspects. The author draws a line showing a progression from the first assemblages of sites of difference, so-called proto-boundaries, to enduring entities. He goes on to emphasise the importance of linking up the different boundaries and ultimately rationalising these connections. This last aspect is a necessary condition for creating persistent entities, social systems which define the inside and the outside (Abbott 1995, 872, also 870–871).

Schroeder (2020) adopts this model in analysing CCs. He distinguishes restrictions on membership, limits to convertibility, territorial confines, systemic limits and credit ceilings, and also shows that these boundaries are interdependent. Drawing on the literature on boundaries in theories of space, Schroeder emphasises that it is not always necessary to draw a clear-cut demarcation line, and it is often preferable to establish more flexible boundaries. This approach does not cover all the aspects of an 'alternative economy', but it is a useful tool in categorising existing CCs and establishing new ones. It offers a bridge for those who focus their analysis of CCs on monetary aspects. However, they would have to acknowledge that there is another dimension to the subject matter apart from money. Money is one element among many which establish socio-economic relations. Others include information about supply and demand or social gatherings. However, there is another side to the coin: notions such as 'local' or 'non-convertibility' imply the negation of relations. In a case study on a historical CC, the German and Austrian Tausch-Centres of the 1940s, the author (Schroeder 2015b, 347) shows how the monetary function was restricted to a mere measure of value in order to seal these exchange systems off from the black market. Before exploring the potential of this approach in more detail, the next section will discuss the implications of purely monetary approaches.

Schroeder (2018a) shows that CCs are relatively insignificant in terms of financing investments in capital assets. Clearly, income in a non-convertible local currency is not suitable for acquiring a new van or machines, which are an assembly of components from many parts of the world. Almost all authors who write about CCs ignore the notion of capital. This aspect has two significant implications. First, it means that CCs are not an instrument of profit accumulation. They may serve this purpose indirectly. In particular, commercial barter systems provide a mechanism that allows businesses to reduce losses either during a recession or for off-peak seasons. However, in combination with other boundaries, a strictly limited convertibility of an alternative currency brings about exchange systems that qualify as 'social' facilities. At the local level, they promote the cooperation between small businesses and their employees.

The second point, which is relevant in this context, is that deconstructing an undifferentiated use of the term 'money' allows a better understanding of the limits of CCs to other elements of an alternative economy. It provides a perspective on the interfaces between CCs and other financial tools such as micro-finance and common-pool resources (Schroeder 2018a). Interestingly, as in alternative monetarism, some advocates of common-pool resources (e.g. Exner 2014) consider this approach to be a step towards demonetising the economy. On the contrary, both approaches complement each other (Schroeder 2018a). Incidentally, Ostrom (1990, 90–92) considered boundaries a necessary condition for creating common-pool resources. This is a good example of boundaries connecting (in this case) two branches of the 'alternative economy' whose advocates often consider their own approach to be a universal remedy.

4. 'MONETARISM' IN DISCOURSES ABOUT CCS

4.1 General remarks

Money is, of course, an essential element of CCs. This paper has already demonstrated the significance of contributions on the monetary aspects of CCs. The term 'monetarism' refers to the advocates of a new monetary order who go far beyond introducing small-scale economies, i.e. community or complementary currencies. The ideological constructs of Gesell and Douglas in the early 20th century (see North 2007, 62-78) provide a first example here. What all these approaches have in common is the belief that systems based on money are detached from their socio-economic environment, and that it is possible to (re)construct them by engineering changes. However, the role and influence of these non-academic monetarists is not the subject of this section. The argument put forward here is that serious research on CC also suffers from a one-sided focus on the monetary aspects of these social innovations.

The issue of money has become quite prominent in recent decades. In contrast to prevailing beliefs during the modern age, interpretations of different forms of money within their specific context are widely accepted these days. The problem, however, is that the fascination for these peculiar forms of currency prevents advocates from seeing their limitations (Hesse 2014, 92). A good example is an attempt by alternative monetarists to adopt a tradition of using shell-money, common among the Tolai people in Papua New Guinea, and to transform it into a Western-style local currency in an attempt to counter the forces of global capitalism (for this version of the story, see Kennedy and Lietaer 2004, 44f). In his very detailed account of the tradition of Tolai shell-money and its use today, the anthropologist Solyga (2013, 240–243) offers a different version of the story. For Tolai people, this money does not play a prominent role in economic transactions. They accumulate these shells and put them together in large rings. After the death of the owner, the mourners open the rings and distribute the shells among the funeral guests. It is important to note that the owners of large quantities of shells form a hierarchy within this ethnic group which counterbalances the new elites of business people and politicians (Solyga 2013, 291f; for a comparison of Melanesian understandings of money in comparison with Western traditions, see Guyer 1999, 242). The project led to significant disputes. Some Tolai, such as the owner of a shell bank, supported the Western initiatives, but the project ultimately came to an end.

4.2 Cryptocurrencies

Areas of research should remain open to new developments, and this includes technological innovations. The question is whether they fit into the concept of CCs. Of course, Bitcoin and similar currencies facilitate trading within the capitalist system, but this is only one way in which they differ from CCs. The idea behind cryptocurrencies is to facilitate transactions without the need for trust (Werbach 2018, 18: Werbach indicates that things are more complicated; see, for instance, page 69). In contrast, the purpose of CCs is not just to strike deals. CC transactions are a means of building trust (as indicated by various studies which focus on social capital, such as Collom et al. 2012, 132f). A useful example of applying new technologies is a social digital currency designed by Roio et al. (2015). People are remunerated in the form of so-called d-cents for engaging in public activities. For "Social Proof-of-Work" (Roio et al. 2015, 27), the developers used a modified version of the blockchain (Roio et al. 2015, 28). The project was undertaken in different European cities. In one case, d-cents constituted vouchers in a loyalty scheme (Roio et al. 2015, 27). The potential of this entire field probably lies not in the development of new forms of money, but in the blockchain (Werbach 2018, 71ff). It should be emphasised that, since the blockchain is a network of ledgers, this involves formal accounting, which was, according to Max Weber and Werner Sombart, so important to the foundation of capitalism (Werbach 2018, 54).

Cryptocurrencies operate on a very different understanding of the nature of money to complementary currencies. They are part of a tradition involving gold and other precious commodities, whereas for CCs the formal use of money in account is of central importance. Of course, cryptocurrencies are not a material commodity, but as the term 'mining' indicates, their value is determined with reference to something apparently outside socio-economic relations. The code that is intended to guarantee value is not just a technical solution, but also a socio-economic issue. This aspect is naturally of vital importance to any entrepreneur who participates in such a system. The present author considers money in account, i.e. keeping formal records of credits and debits—an essential element in developing new and more viable CCs. The appeal of scrip notes and cryptocurrencies lies in the fact that they promise to overcome the scarcity of money (see, for instance, Kennedy and Lietaer 2004, 29 and Gómez 2018a, 3).

4.3 Monetary plurality within capitalism

Recently, Gómez edited an anthology entitled "Monetary Plurality in Local, Regional and Global Economies" (Gómez 2018b, title). She notes that the book assembles contributions from two "partially overlapping international research networks" (Gómez 2018a, 1): the study of a) monetary innovations and institutions and b) CCs (for an overview, see the introduction by Gómez 2018a, 1-17). Théret and Gómez herself (see the introduction by Gómez 2018a, 1) argue in favour of abolishing the monopoly of central banks to the benefit of monetary plurality. The present author does not share this perspective, but this is not the point. From the overall picture as depicted by the editor, readers have the impression that CCs are only currencies and not, as explained in this paper, an attempt to establish alternative economies. Unfortunately, Gómez does not differentiate between CCs (i.e. systems whose convertibility is restricted) and monetary plurality, where currencies exist side by side or even replace central banks' currencies. The latter is a proposal for reform of the monetary structure within capitalism; CCs are an attempt to create economic structures on the fringe of capitalism, and possibly beyond it.

A second aspect in the work of Gómez (2018a) requires critical appraisal. It seems that the editor prefers the material aspects of money. A number of articles in the book include reproductions of scrip notes (Gómez 2018b, for instance 125). In one article, which she wrote with von Prittwitz and Gaffron, this "material reality of currencies" (Gómez, von Prittwitz and Gaffron 2018, 123) forms the entire subject matter. The discussion includes free economics experiments (Gómez, von Prittwitz and Gaffron 2018, 134-142), but does not mention any historical CCs which used money on account (for an overview of different historical CCs in Germany, Austria and Switzerland, see Schroeder 2018b). Given the nature of the various contributions on CC in this book, this aspect should have been made explicit in the introduction. Experiences with various CCs show that transfers based on money on account are a preferred option (for a critical experience report with respect to the use of scrip, see Kirschner 2011). Cash has the disadvantage that it is generally convertible into other currencies. Interestingly, Kuroda's (2018, 118–121) contribution to this anthology mentions the role of credit arrangements in connection with (material forms of) money.

5. PERSPECTIVES ON THE THEORY AND PRACTICE OF CCS

The development of CCs has not exactly been a success story so far. Time systems did relatively well. They found a niche in which people were prepared to participate not just in times when the capitalist economy was in crisis. Systems involving businesses have been less successful. Exchange schemes with currencies whose convertibility is strictly limited are no longer in vogue. One explanation is that many parts of the world have escaped economic crises, so there was no need to establish circuits between prosumers in order to make use of idle capacities. Local or regional currencies like the Chiemgauer stimulated discussion, but did not generally reach the critical mass required to cross the break-even threshold. Part of the problem was a narrow focus on social and ecological values. Degens' (2018, 239) empirical analysis of the Bristol Pound found that the organisers failed to go beyond the small circle of white middle-class participants and involve the traditional local population. It is certainly important to apply normative criteria because CCs are apt to be seen as stabling sidings by neo-liberal politicians (see Collom et al. 2012, 103 regarding timebanks). However, it is difficult to find agreement on whether or not a currency qualifies as 'social'. In addition, CC scholars have always included commercial barter systems in their analyses, to help understand the mechanisms of closed economic systems. Therefore, the term 'social' is not suitable in defining a field of research. Nevertheless, it remains a challenge to secure the funding of professionally managed CCs without this attribute.

The problem is that activists and researchers must develop adequate sets of social and ecological objectives to meet the complex requirements of funding schemes. In particular in countries like France where the social and solidarity economy offers an institutional framework for the promotion of CCs researchers consider it as their task to demonstrate that these systems fulfil the criteria for funding. The rather ephemeral effect of funding schemes make it understandable that Doria and Fantacci (2017) criticise these types of multiple social objective. However, they underestimate the risk that these systems will either fail or turn into purely commercial barter systems. It is not sufficient to design new and intelligent forms of CCs if participants have to carry the fees to cover the operational costs of professionally managed CCs, as well as the usual taxes and other charges (for a discussion of the underestimated aspect of transaction costs, see Schroeder 2015). The challenge is not to define social and/or ecological criteria meticulously, but to develop an attractive framework which makes it worthwhile to participate in such a scheme. In this context, the empirical study by Blanc and Fare (2016) on so-called charters in French CCs, which stipulate rigorous ethical values, is quite interesting. The authors evaluate the effectiveness of such narrow normative criteria rather critically and recommend focusing instead on "forms of proximity" (Blanc and Fare 2016, 19). This is already quite similar to the concept of finite socio-economic spaces presented in this contribution.

In this context, it is important to recall that CCs with strictly limited convertibility are not a means of creating capital. Nor are they, on the whole, a means of accumulating profit (Schroeder 2018a). They serve this purpose indirectly, because they reduce losses by facilitating more effective use of capacities. However, if CCs, defined as 'finite systems', were to be combined with other elements of an alternative economic infrastructure, they would serve a purpose which could be termed 'social.'

Blanc and Fare (2013, 76–77) are quite correct when they argue that CCs require appropriate regulation. Almost all contemporary CCs came into being within the frameworks of existing laws. This constraint made it impossible to design perfect CCs, which is why they hardly ever achieved any economic significance. Passing appropriate legislation would provide an opportunity to create completely new forms of CC. It is important that mandatory boundaries be set up by the state. It will be necessary to adopt elements from the WIR, from local currencies and other types of CC, but it will also be necessary to invent new elements. In 1989, Flor presented a scenario involving both a territorial and a time boundary. According to this concept, transactions in a region are fiscally privileged as long as debits and credits are balanced over a certain period; a surplus or a deficit at the end of this period would be taxable (Flor 2019 (1989)). This would allow participants to pay adequate fees for the administration of the alternative economic systems (an issue discussed by Schroeder 2015), and also address the problem of imbalances between supply and demand. The scenario involves further aspects, such as the role of co-operatives and providing loans in traditional currency as a means of financing investments. The concept envisioned the complete digitisation of all forms of money by 2029. It is nevertheless clear that, before this vision can be implemented, feasibility studies will have to clarify whether there is also potential for exchanging labour-intensive products at the local level in times when the capitalist economy is not in a downward swing. Although this is not a blueprint ready for implementation, it is shows how an understanding of what we call CCs as alternative economic spaces offers new perspectives for an adequate funding of these social innovations.

6. CONCLUSION

This paper has provided an overview of CC development over the past four decades. Monetary aspects already played a role in the 1980s, but they did not assume central importance. In practice as well as in theoretical reflections, the link with the 'alternative economy' discourse of that time was more important. Later, the theme of money became more prominent, and eventually found itself at the forefront of all discussions about CCs. With the advent of cryptocurrencies and other forms of monetary plurality, the former congruence between these two fields was lost. New technologies could also hold some enormous potential for CCs. An important aspect of current technological developments is that online facilities will soon be generally available. This is also very relevant in terms of making payments with these alternative currencies. The great challenge for social scientists who take the social and ecological challenges of the present era seriously is to ask who is going to be connected with whom? I am grateful for a question raised by one of the reviewers: Does it make sense to have these two paradigms if digital CCs penetrate not only the economic, but also social and environmental domains? Both paradigms reflect different priorities in respect of connectivity and boundaries. This contribution emphasised the relevance of the latter aspect and argues in favour of embedding technological progress into collective structures that must be developed in a political process. Ultimately, both paradigms might bring about different forms of social innovation.

This vision differs significantly from the perspectives offered by those who favour monetary multiplicity. The most important distinguishing features between the approaches are:

- An understanding of the relevance of boundaries which should be drawn in a flexible manner.
- Strong restrictions on convertibility versus free convertibility.
- The extent to which they are embedded in a public framework versus private currencies.
- A strong versus weak focus on the local dimension. Exchange within closed CCs does not just mean 'buy local,' it also aims to promote local production.

- Integration of different segments of society at the local level versus different currencies for the different segments of society.
- Pronounced interest in the functional aspects of relations to other elements of an alternative economy versus (if at all) a very general reference to different concepts of the alternative economy.

The present approach has certainly some limits. Setting up and maintaining boundaries requires administrative resources which may not be available in all parts of the world. The chances for creating efficient business-oriented economic circuits, as envisioned at the end of the previous section, are rather remote when the capitalist economy is booming. Relatively high levels of prosperity in many parts of the world explain why closed exchange systems were not so prominent in recent years. The creation of circuits between prosumers might gain prominence in times of recession.

Scholars in this field should be aware that, alongside academic reflections and the innovations developed by practitioners, the cultural dimension plays an important role. It is easy to make a presentation on monetary multiplicity by showing alternative scrip notes. Almost all images involving the different types of CC illustrate what this article refers to as 'connectivity'. In contrast, it is almost impossible to represent the abstract boundaries described above in a visual way. However, sound academic work means becoming aware of such invisible aspects.

Even those who might object to this or any other interpretation of the 'alternative economy' approach should accept that not all researchers, especially not those who work on time systems, subscribe to the view that money is the core focus in discourses on CCs.

It is still too early to measure the differences between the two lines of thought systematically (see Tirgar et al. 2013 for a possible method). In the light of the present historical review, as well as theoretical considerations, the author recommends that those involved in the academic discourse differentiate two specific sectors: a) core research on traditional CCs and b) an experimental area with a provisional and open character which could be called something like 'explorations in monetary innovation'. The present author believes this would sharpen the identity of these different areas of research within this field.

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