



www.ijccr.org · ISSN: 1325-9547

Petz, M. (2020). When is money not a currency? Developments from Finland of proto-community currencies. *International Journal of Community Currency Research* 24(2), 30-53.
<https://doi.org/10.15133/j.ijccr.2020.010>

This article is published under a *Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International* (CC BY-NC-SA): <https://creativecommons.org/licenses/by-nc-sa/4.0>



© The Author(s), 2020



International Journal of Community Currency Research

VOLUME 25 (SUMMER 2020) 30-53

WHEN IS MONEY NOT A CURRENCY? DEVELOPMENTS FROM FINLAND OF PROTO-COMMUNITY CURRENCIES

Marcus Petz*

** Department of Philosophy and Social Sciences, University of Jyväskylä, Finland. Email: Marcus.kit.petz@student.jyu.fi*

ABSTRACT

The article is a case study of several digitally based schemes recently operating in Finland where some functions and properties of money are evident. While working effectively as designed, they do not fully meet the criteria of a well-functioning community currency. The schemes include: sysmä, a digitally based hyperlocal system of account introduced by the rural Sysmä municipality; Pisteeet kotiin®, a housing association points system in the city of Tampere, copied from a working Dutch model; BookMooch, a global book-swapping site that has extended its operations throughout Finland. Explored in the article are the institutional enabling and inhibitory factors and implications for and from other community currency projects. Data was collected by participant observation and semi-structured interviews in all schemes. Additional media surveying, internet webscrapes and online surveying supplemented this data. Along with the demarcation problem between currency and money, the technical issues about scale and purpose, if such schemes are to develop their offerings to become fully fledged currencies, are considered. The concept of “current-see” proposed by the MetaCurrency Project, is used as a lens to evaluate if the schemes achieve their purpose and whether further development is desirable or possible. The concept of a proto-community currency is developed.

KEYWORDS

Green economics, community of use, CC terminology, integral theory, pattern language.

1. INTRODUCTION

1.1 Background to Money v Currency v Exchange

Discussions on money, currency and exchange are often confusing, partly due to the varied usages of these terms by authors with varied backgrounds and partly due to common non-technical usage (Brock and Harris-Braun, 2011:m12:54) which can be sloppy and is prone to semantic change (Robert, 2008). Practitioners may use a term wrongly on purpose: within the information given to the public to be easily understood as a lie-to-children (Stewart and Cohen, 1999), for example in explanations influenced by the barter myth (see below) (Ould-Ahmed, 2010); or for obscuring reasons such as when avoiding the term money to avoid problems with legal and regulatory systems (Bindewald, 2018:p64; Ould-Ahmed, 2010).

Institutions may perceive fiat currency as the only money. For example, the Bank of England, in its somewhat inconsistent Quarterly Bulletin (McLeay et al., 2014:p8), nevertheless explicates under the section “Fiat currency – banknotes and coins”, that “Currency is made up of banknotes” and “banknotes [are] a liability of the Bank of England”, and that “Since 1931, Bank of England money has been fiat money. Fiat or ‘paper’ money is money that is not convertible to any other asset (such as gold or other commodities).” Furthermore, such views can exclude other monies and require they are identified differently e.g. the Belgium Bank Commission “because RES was calling itself a currency” (Kennedy et al., 2012:p115). Cf. Peña de Carrillo et al. (2018) for details of the RES virtual community currency (VCC). In the case of the USA the process of this “power” to “restrain” (Hurst, 1973:p180) (and thereby exclude other monies, which existed as part of its “money system” (Hurst, 1973:p180) is underpinned by law. Cf. Mihim (2009) for a historical exploration of this process of exclusion in moderating the “system of currency” (Mihim, 2009:p4) over the 19th and 20th centuries.

Thus, the word currency may be substituted for money; or the terms voucher or coupon used with no real explanation if they are money or not, as with the *sysmä* (Petz and Eskelinen, 2019). E-money or digital currency can be said to be the same thing (Berentsen, 1998) and any electronic form of money implied as being an AltCoin (Kamps and Kleinberg, 2018), by the attachment of the word COIN as a suffix, prefix or in the marketing hype surrounding a new project, as seen with the *sysmä*; and with the currencies promoted by the company Colu (Suberg, 2019).

Money itself can be regarded as nothing but an “obscuring layer” (Samuelson, 1997 [1948]:p53) or “a veil” (Klausinger, 1990:p617), in other words “merely a technical issue or a more convenient alternative to barter” (Petz and Eskelinen, 2019). This reference to barter avoids the issue that bartered goods (within the framework of market exchange barter) are a form of money (commodity money), thus thereby exchanging apples for oranges is no different from exchanging yen for euro?

Such a reductionist approach strips away the metalevel of currency flows and ignores that semantically money can be so much more than just representational tokens. It can be loaded with cultural meanings and is not “only money”. Money should be conceptualized in terms of money relations, as a social relation (Ingham, 1996). This is a Polanyian position. Polanyi described “the gold standard” as “the accepted name for a system of international commodity money” (Polanyi, 2001 [1944]:p202). He proposed that a great transformation had happened (to some extent, and unsuccessfully in his view) within money relations, to take money, as a tool of the market as a “commodity fiction” (Polanyi, 2001 [1944]:p204) toward acting in this debased way. We can contrast this money, acting in a market exchange barter, with reciprocity barter.

In market exchange barter there has been a commodification process, concomitant with alienation (Marx, 2009 [1844]) which makes pricing a key element of such exchanges. While it is certainly possible to show solidarity (Ziegler, 2008), and base transactions on other facets such as trust / reputation (Ye, 2013), delayed reciprocity (Prendergast and Stole 2000) and indirect reciprocity (Nowak and Sigmund, 2005) these are not essential and complete strangers may engage in market exchange barter without these considerations. There is nevertheless a move toward a “notional ‘equilibrium price’” as reported for the Lhomi for their agricultural goods at the bazaar (Humphrey, 1985) as a part of this process.

In reciprocity barter, in contrast, price is not a consideration. Here social norms rather than market norms predominate (Ariely, 2009). Multilateral barter (barter chains) (Guriev and Ickes, 2000) is possible with

reciprocity barter, for example the Vienna Happiness Project, based on happiness economics, has run offline and online Happiness Circles and Happiness Cafés (Stonham, 2019) where different language conversations are held to enable international, intercultural and intergenerational learning which includes Japanese, German, and English. In reciprocity barter almost the opposite of the price-giving-commodification can manifest, such as flower giving when a prettily wrapped low-cost bouquet - wherein “it’s the thought that counts” - renders the commodity aspect as relatively insignificant in comparison with the emotional currency of the gift.

Commodity backed money was used in Sysmä, Finland in the interwar period, with the dairy industry using milk as money. As physically carrying around milk is difficult, the form that existed was bills of exchange and bookkeeping barter (Parker, 2014). The use of other commodity moneys is recorded, for example in the 19th century in America (West, 1978). Accounting for such barter - not reciprocity barter, but market exchange barter (Dalton, 1982) - is problematic for armchair economic theorists, as for them these relatively recent forms put to the question old theories of how representational money arose. These theories are crystalized in the barter myth. The nice story here is: people without money began swapping goods and then found it was cumbersome, amongst other issues such as requiring the “coincidence” of wants (Jevons, 1989 [1875]), and it was better to use representational tokens, which became money. Initially those tokens were precious metals, and later lower value metals. Paper money arose later as credit notes or promissory notes, “documents representing those coins” (Menger, 1989 [1892]). Together these make up cash-money. Such a fantasy of functionalism eschews money relations in its crudity (Ingham, 1996).

Furthermore, an anthropological analysis of money shortages revealed, rather that, barter only arose where already existing representational money became less available, and is a substitution, on a temporary basis or in special circumstances (Dalton, 1982). Rather what existed before money were local economies of surplus (Hudson, 2004). Here a talkoot culture operated where surpluses were shared in extended kin and kith networks. Talkoot was traced to etymologically connect with harvest tides (Paterson, 2010) – surplus at these times would often be shared within a community rather than traded outside it. Since then the meaning of talkoot has broadened and been appropriated more widely than the Finnish rural tradition which is described by Köppä (2009) as: “People getting together for joint work efforts, based on voluntary participation, and collective reward through hospitality and enjoying of the shared work performance.”

Representational money, rather than being more convenient, acted to disrupt those relationships and erode local resilience. By allowing independence it facilitated isolationism and “is responsible for impersonal relations between people” (Simmel, 2004 [1907]:p273; Simmel, 1896). Of the various capitals recognized by such monetized economics, cultural and relational capitals (reciprocal / reciprocity) became of lesser value as the fungibility of the used money allowed them to be ignored (or at least de-emphasized) more easily than in a talkoot culture. A money free society has existed, with the Siane for example (Salisbury-Rowswell, 1957), and in utopian dreamers’ minds can exist again (Clarence-Smith, 2016; Fresco, 2002; More, 2012 [1516]; Saadia, 2016).

In such a context when we talk about money in our highly monetarized society, we are prone to think of only one kind of money (the culturally dominant form). This money is often termed fiat currency, due to its designation by fiat, that is an official legal order. The political process of implementing fiat money has often led to the deprecation and even banning of other monies and has led Zelizer to refer to this process as “creating market money” (Zelizer, 1994:p13). Money must fulfil several functions and have certain properties. One property is portability; and one function is that it facilitates the flow of an asset. It moves from issuer to spenders who transact it for goods or services. Here I focus on the movement, the dynamism I believe makes money into a currency. It flows and has a current or more accurately currents. Thus, currency is defined as the vitality or *lebendigkeit* of money in use. The properties could be better stated as having the potential for being realized (e.g. having the potential for portability). Identifying that potential can be done in the observation of it taking place – the proof of the pudding is in the eating. This concept of vitality, which focuses on the relational aspects comes from pattern science (Leitner, 2015; Humana and Schwartz, 2008; Petz, 2017:3.2; Leitner and Nahrada, 2014).

The word currency links with exchange. Exchange is when an agreement is made for one thing in return for another (Eriksen, 2001). Currency is, amongst other functions, the representational aspect of that exchange. Currency can thus be a synonym of money, though to be a currency by implication it should circulate. Money can

then be seen as an implicit shared understanding over currency, or “an agreement within a community to use something as a medium of exchange” (Lietaer, 2001:p93).

Indeed, money has functions beyond the representational tokens of coins and notes (Kennedy et al., 2012). Money is used within a given community for specific or general purposes. A community currency could be described as a more specific or special purpose money. The restrictions or specificity starts to indicate a possible typology; with the most restricted being a proto-community currency. They are restricted in how they can flow by design, who can use them, and where. There is a distinction here between the currents that are regulated, and whereto a money is allocated to be spent. The whereto is the domain and an accounting matter. This can be seen in the example of national economies where for example in the social allocation (in the USA) you have 3 big domains of health, welfare, and education (Soroka and Wlezein, 2010) with their own allocations or budgets. In the example of household economics, “domestic, gift and charitable money” via “earmarking of monies” (Zelizer, 1994:p85) has been identified.

This budgeting shows the polymorphous concept of money, where the same money can be conceived of in different ways based on “differences in the roles the items in question play in the real lives of the people” (Snelders et al., 1992). This can be referred to as “social money” (Zelizer, 1994:p4) manifesting via tokenization as near-money. Book tokens are such an example; as is gift money, i.e. gift cards and gift vouchers (Chan et al., 2016). This tokenization can be extended as asset tokenization with a blockchain ledger where the token represents any tangible or intangible asset (CoreLedger, 2019). The resultant tokens can fulfill whichever properties and functions of money are designed and legally-culturally-socially accepted.

Proto-community currencies do have something in common with how barter really arose, that is they are introduced into a society which already has cultural familiarity with a functioning money system and flowing currency, to meet a need that existing currencies cannot. Unlike community currencies, proto-community currencies are not aiming (or at least initially) at replacement of existing money relations and very much are complementary to them. Their designers thus may have no intention to evolve or develop them into more. The examples in this paper show this with; the *sysmä* introduced to counter rural population decline, *Pisteeet kotiin@* to reduce maintenance costs, and the *BookMooch* points to swap books.

When researching community currencies, we find generational typologies were attempted, though often the chronological is conflated with the developmental. So, a first-generation currency in one location may have features not found in a first-generation currency elsewhere. Generations can be dependent on the trajectory within and of a society taking into account cultural evolutionary factors that can be exogenous not only endogenous (Miyazaki and Kurita, 2018; Nishibe, 2018).

Geographical typology is slightly easier to work with and is based on whether a currency is used “locally, regionally, nationally, or internationally” (Kennedy, 2012:p51). This relates more to the geographical ideas behind community rather than a community of interest (Kennedy, 2012). While a regional currency, such as the Lake District Pound may be geographically delimited – to the Lake District in England; it has fewer users than the Bristol Pound; fewer features too, although it was intended to have a higher capitalisation; and use over a greater geographical area, as a rural rather than urban community currency (personal communication from Ken Royall, Chief Executive, The Lakes Currency Project Ltd., 2018). These 2 Pounds in juxtaposition shows the challenge of classification.

A further layer of complexity is added by trying to put the nominally generational classifications under cultural realms (Brown, 2001), sub-regional or even national descriptors, which come from the spatial geography found in the economic geography sub-discipline and touches on cultural evolution, see Nishibe (2018) for an attempt to map this.

Purposeful, as a typology would see community currencies classified, “according to the specific areas they target, such as education, health, small and medium enterprises, culture, pension plans” (Kennedy, 2012:p51) and not an axis of individual to general public as (Martignoni, 2012) proposes. Here I propose to look at the appearance of new monetary forms. I suggest the very limitations contained within them are limitations which make them not

have the same status as fiat currency acting in all its forms and properties, yet still they partially act as money – money could substitute for them, though not vice-versa.

Instead of these other typologies, I propose we include all the forms of financial asset classes in our continuum, and call this, after the accounting term Cash and Cash Equivalents (CCE) (Ernst & Young, 2019), the CCE Continuum (Table 1).

Table 1: The CCE Continuum.

near-money, proto-money / proto-community currencies
community currencies (CCs), local currencies
fiat money (better termed fiat currency) / community money
all capitals community money

There are debates around defining all these assets (Elliott and Elliott, 2012). Fiat money is perhaps the clearest asset class as it can be gazetted or defined in written law, and as in this paper via properties and functions. The other asset classes can be compared and contrasted via these aspects. It has been claimed “that money is a ‘unique’ asset in that it has no close substitutes” (Husted and Rush, 1984). Fiat money’s substitutability by near-money and how to account for cash equivalents means that I do not offer speculation on what generally accepted accounting principles (which vary, even internationally between accountants) should say on any particular instrument or asset here. This overall lack of clarity has been thrown under the spotlight recently by questions raised by what accountancy should do with digital currency (Venter, 2018). Suffice to say: demand deposits, short-term investments, money market funds, investments with maturities less than three months and bank overdrafts can all be considered in this framing as near money. Additionally, any asset could via tokenization (CoreLedger, 2019) also be considered here. For them to flow promissory notes, money orders, bankers draft checks, share certificates or land title deeds for example provide a ready mechanism as a paper or digital instrument.

We have 3 terms to be clear on:

1.1.1 Money

The form the items that transact are in: cash-money, e-money and other types (Bech and Garratt, 2017).

1.1.2 Currency

The movement and flows: via computer transactions, transfer of physical objects, or by use of documents. Currency is conceived as current-see, which is a flow of capital(s) and that happens within a system called a currency system. Currency was defined above as the vitality of money in use, to differentiate money from currency.

1.1.3 Currency system

How the system of use functions. Thus, the concept of a nested hierarchy exists with money, acting as a currency, within a currency system.

What features do we find in proto-money? And which are missing, while maintaining functionality? In the CEE Continuum there is a final form of money- all capitals community money. This form seems absent from discussions about how money could operate and contains the idea of money capturing all the capitals (see Capitals, Assets, and Factors, 1.2.3 below) in the way that the surplus economy of talkoot did. Here money relations would not be based on scarcity, but on abundance.

1.2. Properties and Functions of Money and Capitals

1.2.1 Properties of Money

To operate, money demands certain properties or characteristics (Aliyu, 2018) (Table 2).

Table 2: The Properties of Money.

Fungibility	Its individual units (meaning it is divisible and thus countable), are interchangeable. Thus, money is comprised of smaller units.
Durability	It can withstand repeated use. With digital currencies data loss or corruption shows there is still a durability property requirement.
Portability	It is easily moved around either directly or via representational movement.
Usability	It is conveniently usable. Complicated procedures for access or spending render what could be money as no longer money or vice-versa. This has a cultural acceptance aspect (acceptability), not just portability. This may be legally mediated, so restrictions on high value notes (to counter money laundering in the Eurozone). Or by custom such as refusal to take low value coins (1 and 2 Eurocent coins by retailers in Finland). Or due to ethics, such as refusal to accept euro coins as restaurant tips in London, as I experienced. These are examples of such usability aspects.
Cognizability	Its value must be easily identified by users. Aliyu (2018) considers this requires uniformity, saying "Uniformity of money calls for a standardization of money so that it looks the same.
Stability of value	Its value should not fluctuate. The money illusion is an interesting paradox here (Shafir, Diamond and Tversky, 1997). However, a consistent (bounded) decline is still a rate of value stability. Hyperinflation or removal from circulation (as with 1 penny and 2 pence coins in the UK, due to increasing value of the copper in these coins over their nominal values) render the money as no longer having this property. See Oresme-Copernicus-Gresham's Law on this (Sparavigna, 2014).
Scarcity	There is control over how much can be held or acquired or spent. Crypto currencies require limitations on issuance for them to have value enough to be used. It is only in the situation of demand that a utility value accrues to money. Excess beyond sufficiency would not be used and thus would not be functioning as money.

1.2.2 Functions of Money

Conventional economists reduce these to 3 functions: Medium, Measure and Store (Samuelson and Nordhaus, 2010a). Some claim money can have more functions, up to 6 (Aliyu, 2018), with Aliyu's ontology additionally giving the functions: the basis of credit, unit of account, and standard of deferred (postponed) payment. There is a way to talk about types of money in usage as the money supply or money aggregates e.g. M0, M1, M2, M3, M4, MB, MZ and L. How these terms are defined and used varies between central banks (Anderson, 2003; Wikipedia contributors, 2019). Nevertheless, these types of money are the mechanisms for creating / identifying money, which then (debatably) fulfil money functions (Table 3).

Table 3: The Functions of Money.

Measure of value	Services and goods can be priced in it and compared with each other and thus it is a unit of account. Some split unit of account from measure of value.
Standard of deferred payment	It can be used to value a debt over time. Some say this is pricing of a debt and a debt is a service, so this is just a measure of value.
Store of value	It can be saved and subsequently realised without loss of value.
Credit	It allows the units to be borrowed in advance to pay for goods or services now, and then paid off later. Ultimately, they can be created de novo in the system as “quantitative easing” and removed as “quantitative tightening”.
Medium of Exchange	Its value must be easily realised, so when used it can replace the coincidence of wants issue, making exchange possible. It is arguable that it is money if it facilitates a current-see - a flow of a capital / capital-flow, and if it does not facilitate any flow then it is not money. Thus, medium of exchange could be replaced with facilitates a flow of an asset, which can be a tangible or intangible good, service or combinations of both.

1.2.3 Capitals, Assets, and Factors

Mainstream economics regards capitals as factors of production. There are principally 3: Land, Labour, and Capital (Ricardo 2001 [1821]) known as primary factors, which encapsulate others (so Information falls under knowledge and thus Labour and is debatably considered a secondary or produced factor of production) (Cohen, 2003; Lee, 2017) and those excluded are referred to as externalities (both positive, which is a benefit not paid for – such as pollination of garden plants by bees kept by a bee keeper; and negative, which is a cost imposed on those not benefiting from production – such as pollution) (Callon, 1998). They are very anthropocentric; and if there is no relationship to people, they are not considered at all (Naudé, 2017).

Current theorists treat capitals as having mutual substitutability to a greater degree – termed, weak sustainability; or lesser degree – termed, strong sustainability respectively (Coulson et al., 2015), though nothing can be completely substituted. Ecological theory, concerning plant growth, talks of Liebig’s Limitations of the Minimum – there is a limiting nutrient which cannot be compensated with replacement by another nutrient (Danger et al., 2008). I believe the same idea has merit in being applied to economics with different capitals being required for balanced socio-environmental-economic functioning. Thus, there is an economics of co-abundance (strong sustainability) though not a single limit as such, problems will arise if there is an absence of some capitals.

In such ecological approaches factors of production are avoided and instead they are referred to as capitals. Green economics regards more capitals as being present with up to 8 being used (Table 4). There are still externalities, though the aim is to be fully inclusive with the concept of the circular economy (Korhonen et al., 2018) often implicitly thought of by green economists. There is confusion here, as different thinkers have different conceptions and divisions, so to be clear in this paper we can think of a capital as analogous to money (an asset which can be tangible or intangible; primary or secondary).

Table 4: The Evolution of Green Capitalist Approaches: Capitals as Named by Scholars.

Ricardo 2001 [1821])	Ekins et al., 1992	Porritt, 2007	Flower, 2015	Adams, 2015	Flora et al., 2018	Levy and Wyckoff, 2014	Roland and Landua, 2015
Land	Ecological	Natural	Natural	Natural	Natural	Natural	Living
Labour	Human	Human	Human	Human	Human	Individual	
Capital		Financial	Financial	Financial	Financial	Financial	Financial
(Machinery)	Manufactured	Manufactured	Manufactured	Manufactured	Built	Built	Material
	Social Organizational	Social	Social & Relationship	Social/Relationship	Social	Social	Social
			Intellectual	Intellectual		Intellectual	Knowledge
				Strategic	Political	Political	
					Cultural	Cultural	Cultural
							Emotional & Spiritual
							Time

1.3. Current-sees and Meta-level Monetary Considerations

Measuring these capitals, properties and functions are important for assessing the functioning and fitness for purpose of both money and currency in a system. This functioning is considered with the concept of current-see, which is the demonstrated movement as a flow of a capital (Brock and Harris-Braun, 2011)¹. Again, with different conceptions of capitals, identifying them and flows as discrete flows with different disaggregations can lead to different results. The current-see concept does not make this clearer, due to lack of agreed boundaries over such current-sees. A good example is Land, now seen as Natural Capital and in turn is lexically expanded to Living Capital (Roland and Landua, 2015) thus matching Lovelock's concept of Gaia, which includes all processes and life found about the planet Earth (Lovelock, 2007). So, current-sees of "hooves and trees" would be called differently from those of "prairie and forest".

Each of these typologies reveals a conception of the world. This Weltanschauung is made stark by contrasting: Macroeconomics; which is concerned with flows in aggregate operating at the national economy scale (Samuelson and Nordhaus, 2010b) or deals with accounting which is largely depersonalised (Morgan, 2001). With microeconomics; which looks at the household and even individual scale (Case et al., 2007). In praxis microeconomics and macroeconomics have a blindness towards local (not regional, which is at a different scale) and community economics (Hill and Myatt, 2010; Marglin, 2008). This is exacerbated by reducing economics to only looking at flows of financial capital i.e. (fiat) money. Current-see was conceived as a way to look at flows, not of money – which is seen as representational in abstract of concrete transactions - but of all the other things which money flows are an abstraction of (Brock and Harris-Braun, 2011:m12:54). So, when goods and services exchange what actually happens in addition to the financial transfers going on; the relational capital, the reputational capital, the physical and environmental transformations and even emotional transactions which may result. (cf. Hülsmann, (2008) to explore how ethics of money and morality influenced money design and modern economic

approaches; cf. Palley, (2018) for a debate over the origins of modern money, why of money, moneyness, modern monetary theory and functionalism in monetary theory).

There is an overall utopian framing the inventors (Arthur Brock and Eric Harris-Braun) and adopters using the label “MetaCurrency Project” and others (e.g. Leander Bindewald) apply to current-sees (Bindewald, 2018:p69). In my reading of their view there is not one current-see but several current-sees operating in an economic environment and mutually reinforcing each other to create a new kind of economic ecology. Here we are part of the natural order and not dominating nor controlling it but working synergistically with it. So it is like talking about a family or a collection of current-sees operating in concert, and isolating a single current-see does not make sense, it fails to take into account the holistic-cybernetic-systems approach we find in “every living system” (Brock and Harris-Braun, 2011:m14:27), that any current-see operates in. Rather we must talk of current-sees in the plural.

There is a belief that society will transform, and individual motivations will undergo a cultural evolution, merely by the development of different current-sees, practices and protocols as they emerge in our current econosphere (they are believed to create an emergent property by their very manifestation). There is some design science behind this thinking, with the idea that pattern languages and pattern science (Finidori, 2015) can capture some of these relational aspects. The difference between: instrumental values and intrinsic values; self-actualization v. survivalism; and even the different levels societies may be in as regards spiral dynamics (Wilber, 2001) are poorly accounted for by these ideas. Especially if we try to describe a current-see.

To consider current-sees we need some notion of the properties and functions of current-sees and currencies, just as we have of money. Then we can assess if a community-currency is well functioning or not. Knowing this allows us to troubleshoot, redesign and repurpose so that the money (which although well designed e.g. in the case of the sysmä e-money explored below) has failed as a working currency system for those that wanted it to fulfil certain purposes due to lacks in terms of current-see (e.g. in the case of the sysmä allowing it to return to the source for reissuance). Aids to thinking about current-sees are: Arthur Brock’s FlowSpace Brainstorming Worksheet (Brock, 2005); Designing Social Flows (Brock, 2014); and Cultivating Flows (Wagter and Russell, 2016).

2. RESEARCH AIMS, DATA AND METHODS

The aim of this research was to look at near money (Chan et al., 2016) proto-community currencies in Finland in 2018 and consider how they are / did not function as successful general-purpose money. BookMooch is somewhat of an outlier as it operates at a global level, yet it makes a useful comparison when considered with alternatives, as a community of interest / community of use, rather than a geographical community. These small schemes were chosen partly from convenience sampling (Teddlie and Yu, 2007), and because in using them, I gained an insider perspective on them.

As a researcher, I am embedded in the world I research. Consequently, my personal milieu as a citizen du monde, activist and scientist influence my methodology and research opportunities. Some of my contemporaries (Aubret et al., 2014; Das, 2015; Paterson, 2011;2020), follow similar methodologies, to capture our lived experiences which have been described as auto-archaeology (Buchli and Lucas, 2001; Harrison and Schofield, 2009) and autoethnography (Adams et al., 2015). There is a particular desire to capture minority existences, the liminal and cultures of resistance which are vulnerable to erasure or distortion by domination of mainstream cultures acting in a hegemonic way. Nevertheless my theoretical approach was a scientific one, though I lean more toward that of an integral theory model, something that is shared by other researches in community currency (Arnsperger, 2010; Lietaer et al., 2012) and an enlarged explanation of can be seen in the work of Place (2018; 2019). I also use Artistic Research Methods (ARM) (Petz, 2017:3.3-3.4) and a fuller description can be found in a paper on the sysmä (Petz and Eskelinen, 2019).

Data was collected by participant observation and semi-structured expert interviews (n=30) in all schemes. I live in a VTS-kodit home, so use the Pisteet kotiin® as a resident; I have used BookMooch as a member for the past 9 years, and I went to live in Sysmä during the trial phase of the sysmä proto-community currency. Such intimate familiarity and snowball sampling (Goodman, 1961) helped identify suitable interviewees. Additional media surveying, internet webscrapes and online surveying supplemented this data. Particularly useful were the VTS-

kodit residents' newsletter (Asukasviesti) which was subject to content analysis (Neuendorf, 2017); all the BookMooch transaction records and forum records from the last decade, which are available online; and minutes of meetings re the sysmä. The FlowSpace Brainstorming Worksheet (Brock, 2005) was used along with different capitals to explore differences between the schemes. These were then textually tabulated and tagged for presence or absence of properties or functions of money. This then allows an analysis as to placement in the CCE Continuum (Table 1).

3. ANALYSIS

3.1 Context to Finland and digital payments

Finland has some factors that foster fintech. The country has been in the last 2 decades very keen to promote innovation in many sectors. The rise of Nokia Oyj (Cord, 2014; Siilasmaa, 2018) then more recently Rovio Entertainment Oyj and Supercell Oy reveal a strong concentration on IT related innovation in the quaternary sector (Cheng, 2012; Härmä, 2013). More recently Fintech Finland, which was founded in 2017 by the Fintech Executive Community Finland, are collaborating with the Helsinki Business Hub to create a Fintech Farm to promote the development of this industry (Hallikainen, 2019). "Finland has roughly 160 fintech companies in the fields of payments, cryptocurrencies, blockchain, insurance, security&compliance, APIs&platforms, data&analytics, customer services&acquisition, financial software, wealth management, investing, financing and personal finance management. One of the strongest areas in Finland are financial software, back-end technologies, financing and payments" (Helsinki Fintech Farm, 2019).

However, the three schemes of this article do not originate from the profit motive of firms. Instead they show a wider public desire to use the high computer literacy present in Finland for social innovation. A strong enabling factor is the high education of Finnish residents. This includes technological literacy and English. These are significant in being able to access both knowledge capital and making use of relational capital through the existing high ICT access (OECD, 2015). In the non-commercial sector Linux is such an innovation, which arose due to these capitals combined with a sharing approach (Puttonen, 2001). That sharing economy (Lahti and Selosmaa, 2013) or collaborative consumption comes from the cultural roots of Finland as a welfare society. While these roots can be traced back to the presence of the state-church (Pesonen and Riihinen, 2018) and influences from Britain (Marklund, 1988; Kuhnle and Hort, 2004) there are other influences from within Finnish culture.

The talkoot culture is still active in Finland with talkoots taking place in VTS-kodit properties (Kivistö, 2017), in Sysmä (anttil, 2012), and within the book swapping culture. In the latter case this has been through BookCrossing where some BookMoochers are members too (pooca, 2015). While talkoots vary from: tietotalkoots – information talkoots, which are more about increasing knowledge within a community (Petz, 2017:3.4); to a pihatalkoot – yard talkoots, the most common form, which are for cleaning-up a communal space and have stretched to a world talkoot (World Cleanup Day, 2018) they share certain features. They support the care of club goods while working together (Botero and Saad-Sulonen, 2013). In this sense the BookCrossing talkoot has developed the sharing of books and built the culture around facilitating that. The possibility to use a community currency or proto-community currency is a small step toward a sharing non-monetary economy, which already exists, and yet does not flow as it might if certain current-sees are stimulated.

There are many associations, foundations and NGOs in Finland, which could use community currencies. Municipalities are fairly-well funded and could explore such innovations too. The first sector has provided some economic stimulus: e.g. Fintech Farm funded by the Ministry of Economic Affairs and Employment, the City of Helsinki and private partners (Helsinki Fintech Farm, 2019); and has the QUANGOs: VTT, Business Finland (from a 2018 merger of TEKES with Finpro Oy) and SITRA (Sjöstedt and Noponen, 2011) supporting innovation. Increasingly the idea of the circular economy is taking root in that innovation ecology. VTS-kodit is a member of The Association for Finnish Work. The Association, founded in Tampere in 1912, is highly rated by consumers and published The High Value Manifesto (Curry et al., 2015) and Making High Value Work: The Business Briefing (Curry et al., 2014) to influence government policy and business practices. The Manifesto states "policy should address the full range of innovation, including production processes, organisational innovation and social innovation. Innovation policy in Finland should include service and strategic design elements, incorporating these also into traditional product and technology driven sectors" (Curry et al., 2015:p15). Furthermore, with implied

criticism, recommending that “Finnish public policy and legislation should seek to widen the diversity of business ownership types in Finland.” (Curry et al., 2015:p26).

As Finland already has quite a liberal arrangement with its cooperative law and the possibility for associations and foundations to engage in non-profit operations it is worth highlighting the biggest barrier to development of the community currencies found in this research. This appears to be the tax law. Many possibilities for developing the talkoot and sharing economy are stymied by the desire to treat every transaction as a professional service which must be charged at professional rates according to the collective agreements negotiated by unions which set out pay scales for workers. Unlike in other countries small scale community operations can be regarded as tax liable. A tax decision taken around this idea has led to a rapid decline in LETS schemes, and seriously damaged the growth and development of the Stadin Aikapankki (a Helsinki based timebank) (Eskelinen, 2020). This rent-seeking tax policy (Angelopoulos et al., 2009) is a block on innovation and the development of flows of different capitals. It causes a domination of neoliberal capitalism favouring statism and not the community sector.

Other inhibitory cultural factors include: bureaucracy, which prevents crowdfunding unless a license is obtained from the police (Hooghiemstra and de Buysere, 2016); racism, which prevents immigrants from bringing their knowledge and experience into praxis (Ahmad, 2019; Tessieri, 2017; Mashaire, 2014); and a certain kind of stubbornness called *sisu* (Lahti, 2013) (determination in the face of adversity), which can be a good thing when applied to perseverance in overcoming obstacles to new projects, but a bad thing when insistence on following a certain path or way as expected from historical experience despite it not being the best course of action. Nevertheless, some people and organisations do innovate and bring in alternatives.

3.2 Description of Schemes

3.2.1 *sysmä*

Sysmä is a rural municipality, located in the Lake District of Finland, which as a post-productivist agricultural area has chronic population decline. Fewer people in the municipality results in an eroding tax-base and thus a financial shortfall to pay for expected local services. This decline in revenue acted as a stimulus for innovations to deal with this pressure, and one was the Kuponkieuro ja Pienyritysten Verkosto (Sysmä euro-voucher and small entrepreneur network) (PHL, 2017) which created the *sysmä raha* (sysmä money). It was run by Sysmä municipality as a project. The *sysmä* was a digitally based hyperlocal system of account, branded as a local currency, and trialled in 2018. It was voluntary for businesses and consumers. However, local road communities and associations were effectively forced to join if they wanted grants from the municipality. It was inspired by loyalty cards (Petz and Eskelinen, 2019).

3.2.2 *Pisteet kotiin®*

Tampere is a post-industrial city, on the edge of the Lake District of Finland, with a significant working-class history and an increasing population. It has a strong solidarity culture with red (Heinonen and Leivo, 2015), anarchist (Shcherbinin, 2013), feminist (Tamminen, 2014), activist (Shcherbinin, 2013) and agonistic (Bäcklund and Mäntysalo, 2010) influences. In 1970 the municipality founded Vuokratalosäätiö ry (Rental House Foundation) to provide below market-rate rented property. VTS-kodit has introduced a points system called *Pisteet kotiin®* (literally: bring the points home). The *Pisteet kotiin®* development began in 2002 and was operational in 2008 (Jantunen, 2012). It is digitally based with points earned for tenant action (VTS, 2018); paying rent on time, buying insurance or involvement in residence committees (Jantunen, 2018), which bring a paper voucher for use with partners in local service or domestic goods firms. It is effectively a loyalty scheme which all residents belong to by default, although individuals can opt out of it. Note that the *Pisteet kotiin®* home points scheme was set up for tenants (those who pay rent) and is not yet extended to all residents (those that may live in a VTS home, for example children of tenants). *Pisteet kotiin®* is a successful technology transfer from the Woningstichting Rochdale in Amsterdam (Jantunen, 2012), and is in turn being copied by Jyväskylän Vuokra-asunnot Oy (Jyväskylä Rental-housing Ltd.) in Jyväskylä (JVA, 2019).

3.2.3 BookMooch

BookMooch was founded in California by John Buckman in 2006 and underwent rapid growth with other book-swapping websites (Buckman, 2010:m3). It is digitally based on a points system with points earned for books added or essentially gifted away, which are traded on the system (Buckman, c2011). There were a few other ways to earn a very minimal amount of points, but these did not develop and in fact development of alternative uses was limited by the founder (Burns, 2006). There are active members in Finland. It was always free to join and use.

3.3 Analysis of The Properties of Money Within the Schemes

As these schemes are proto-community currencies they do not manifest all the properties of money. Yet they do manifest some to various degrees (Table 5).

Table 5: Schemes Compared - The Properties of Money.

Scheme Property	BookMooch	sysmä	Pisteet kotiin®
Fungibility	Y	N1.	N1.
Durability	Y	N	N
Portability	P2.	P2.	P2.
Usability	Y	N3.	N
Cognizability	Y	N	N
Stability of Value	Y/N4.	Y (for consumer)/ N5.	Y (so far)
Scarcity	N6.	Y	Y

Key: Y = Property Present; N = Property Not Present; P = Property Partially Present

As the representational “note” for sysmä and Pisteet kotiin® is a voucher, where the vouchers have varied values, one voucher is not substitutable for another. Effectively they are bills of exchange, meaning the sysmä and Pisteet kotiin® lack fungibility (Table5: N1).

BookMooch points are only electronic and easily transferred electronically, so are thus portable. sysmä and Pisteet kotiin® are electronically stored, but not portable as printed QR codes and vouchers respectively are required for their spending. Lack of convenient usage means both sysmä and Pisteet kotiin® fail on the usability property of money (Table5: P2).

The sysmä was also not usable as it needed to be recognised by a community of people. It lacked social acceptability due to cultural reasons (Table 5: N3). Something seen with the refusal of the Stroud Pound (Cato and Suárez, 2012). Pisteet kotiin® does not meet the usability threshold for money as it is complicated to spend it, with a voucher and authorization acting as cash controls, to render it away from a community currency to a proto-community currency in the CCE Continuum (Table 1).

Stability of value is present, but not universal, in all schemes. The BookMooch purchasing power varies according to country (Table 5: Y/N4) : so if the Moocher (Mooch member buying a book) registers their account in the same country as the Moochee (Mooch member selling a book), the cost and value of 1 Mooch Point = 1 book; in a different country (Moochee and Moocher are not registered in the same country) the value of 1 Mooch Point is 1/3 of a book, i.e. 3 points are needed to buy = 1 book. This is a soft capital control, as people can smooch points back (Carolyn, 2012) and make offers at different rates (which happens).

The sysmä exchange value (Table 5: N4) had a 5% bonus for over 100 euro. In theory the retailers were to bear this cost if exchanging back to euro. As water bills could be paid from these sysmä the value was, different if a retailer decided to exchange for euro or to use sysmä to pay a water bill denominated in euro. It appears this was not fully implemented. Thus the value though predictable could change with these variables so was not acting as general purpose money, it was a special purpose money, or rather a proto-community currency, with restricted properties to facilitate certain current-sees and inhibit functions of money to prevent the flow of other current-sees being restricted.

(Table 5: N6) claims for BookMooch there is scarcity, though any book added to the system earns point(s), thus only a theoretical scarcity limit (how many books exist). Yet akin to inflation, without removal of books; or growth, like in a pyramid scheme, there can be more points than members can spend – thus scarcity is eroded by this points-surplus. Additionally, BookMooch Journals - a user generated traveling arts journal project (Tennant, 2008), can be created and added, at least one author had a print run offered with a freemium (Pujol, 2011) scheme on his book, which allows the means of production to be in member hands.

3.4 Analysis of the Functions of Money Within the Schemes

Over time the money functions fulfilled by the schemes have changed, so an assessment must consider features that are present at a single time within a similar institutional framework for a fair comparison. Table 6 shows the schemes as they were all operating in 2018.

Table 6: Schemes Compared - The Functions of Money.

Scheme Function	BookMooch	sysmä	Pisteet kotiin®
Medium	Y	Y	Y
Measure	Y	Y	Y
Standard	Y	N	N
Store	Y	N2.	Y
Credit	N1. (historically Y)	N3. (local Q.E.)	N

Key: Y = Property Present; N = Property Not Present

It can be seen that (Table 6: N1.) the credit function is missing from all three schemes. Originally it was possible to go into debt with BookMooch, but now it is not. There is no longer an “Unofficial Bank of BookMooch” (McBride, 2009) to lend points, nor “BookMooch Angels Fund” to credit them for mooching books for others in a peer to peer lending model, nor create them (as used to happen with international mooches) (Cara, c2011). A formula applied to members limits mooching books, and how many you send, to prevent debt and thus credit arising. That formula is stated as a “2:1 ratio: you have to send out at least 1 book for every 2 you receive. If you don't keep this ratio up, you won't be able to mooch any books, even if you have the points, until you improve your ratio. Sending internationally counts as 3 books” (Buckman, c2011). This loss meant in current-see terms that social, emotional, knowledge, material and to some extent cultural capital have all been eroded. Pooling and sticking points have been increased, rather than a flowing system.

Experimentally an “airdrop” (Alassouli, 2018) of 5 sysmä was trialled, which some considered to be helicopter money (cf. Jourdan, 2020 for a discussion about helicopter money). It could be used to give credit if the system was changed from all sysmä being backed by fiat-money. There is no consumer credit (Table 6: N3), though effectively there is a local quantitative easing, which is a form of credit with the money given to local association and road communities as block grants in sysmä.

Pisteet kotiin® has no credit function, but could be given in a mortgage type scheme, which would be paid off over time by rent.

BookMooch fulfils most of the functions of money, admittedly a special purpose money, that can only be spent in certain places. It does not fulfil all functions as it is no longer used for credit. The *sysmä* and Pisteet kotiin® are both related to fiat currency and could be called subsystems of that fiat currency. Like the Barter Clubs of Argentina *credito* which was beholden to the peso (Ould-Ahmed, 2010), this argues for them not being money. However, independence is neither a function nor property of money, as fixed rate exchange systems indicates for many fiat currencies in use today.

The *sysmä* as ran lacked the store function (Table 6: N2) as it ran till the year's end (during the trial phase, but was planned for such annual retirements of currency anyway) and then had to be surrendered or the value was lost. While it ran it acted as a store of value, but the focus was on it transacting not storing value. The usability value came from attempting to stimulate the flow of social and relationship capital, this current-see would then hopefully increase financial flows, knowledge flows, material flows and even living capital if more people would come to *sysmä*. The failure of social and relationship flows also led to a damage toward political capital.

The *sysmä* and Pisteet kotiin® can be used for measure of value. A 5 *sysmä* offer was made at the *Sysmä* Camping business for a coffee and brioche; and the cost of painting a wall is given in Pisteet kotiin® (tainak, 2018) neither can be used as a standard of deferred payment as they cannot be used for a debt value over time. Immediate purchase is required for *sysmä*, and Pisteet kotiin® must be used to pay for a service or product. When the Pisteet kotiin® are converted to a voucher, this is a negotiable instrument, like a cheque, which is limited in time and arguably a deferred payment, but it is not a standard as it is: a. denominated in euro, not points (pisteet); b. its validity is limited to a very short time, as we would find with company paper.

From this analysis it can be claimed BookMooch has largely acted as a currency system with Mooch points being a money property-wise and functioning as a community currency, but the *sysmä* and Pisteet kotiin® do not meet the threshold to act as money or a currency.

4. DISCUSSION

Limitation of the flows in these schemes can be accidental, but this serendipitously allows a measure of control on how they are used. They could be co-designed to enable more flows and more properties of money. The *sysmä* could be enabled as a store of value. Mooch points could be enabled to trade other things. The Pisteet kotiin® could act as a medium of exchange with other holders of Pisteet kotiin®, so for example thus getting more participation in running a collective kitchen to counter old people's loneliness and increase food literacy (Truman et al., 2017).

While all three of them can be hacked, and used in these ways, there are strong disincentives to doing this. Alternatives are easier to develop, which are limited to specific purposes. For example, tourist money (Warner, 2014) issued on an annual basis and then retired can act as a promotional tool for events over a tourist season. A note itself, while used over a summer as functioning money yet conceived, as a souvenir would earn seigniorage. In *Sysmä* a separate tourist currency could trade over a much wider, perhaps regional area. Were the value to be stored to subsequent years this could be disruptive when attempting to carry out quantitative easing, by allowing more currency to enter that economy.

Local quantitative easing or tightening is possible by use of the policy mix over payments for the local council services, water bills or local taxes with that money. In *Sysmä* it would make sense to use the *sysmä* issued from the municipality to limit the flows of finance within the area when it comes to the road communities and local associations. For that proto-community currency to be a store of value, over several winter seasons, when demand for buying stone for fixing roads can vary is useful. A hyperlocal only issuance as *sysmä* reduces the risk of embezzlement or for any association to use grants for speculation.

BookMooch points, could apply to the nebulous "favors", notwithstanding the difficulty of describing what a unit of favor could be (Buckman et al., 2015). The system and architecture of the community is there. There was interest in so developing both by the founder (Buckman et al., 2015) and members (Fast et al., 2008). There were

some successful members' innovations in the form of the Angel Network, the Unofficial Bank of BookMooch and even the BookMooch journals. By using the lens of current-see we can elucidate that there is a relational capital flow here, trust was built by feedback comments, smooches and forum use. The forums, with various subjects facilitated an Angel Network; people were willing to give time or points to support not only BookMooch, but "charity" accounts, and thus certain institutions and wider community development at a global level.

When juxtaposed with BookCrossing, another book-swapping site that is currently more vibrant than BookMooch, there are clear differences. BookCrossing relies on a new conception of flow-value of the books, which while they can be retained, focuses more on making books circulate and building a community of use and interest. Hence the common BookCrossing "get-togethers", "meetups", "conventions" (BC, 2019a) and in Finland "talkoot" show this friendship is the community of book-reading, not ownership of physical property in books. There is in effect a constant flow, with no points to be accumulated and then spent in order to get more books. The well-functioning Finnish forum (BC, 2019b) shows BookCrossing enables these community enriching flows whereas BookMooch does not (Fast et al., 2008).

Could these book-swapping projects allow swapping of other things? Would our proto-community currency be more useful without its limitations to only books? BookMoochers accept a book is worth one point; even though they can see varied pricing in fiat money via Amazon's prices juxtaposed in the Your Wishlist page in BookMooch. Timebanks and LETS projects, which tried to equate everyone's time as of equal value have struggled in societies where people or institutions are not willing to recognize everyone's time as equal (Eskelinen, 2020).

Limiting to only books works as the value is agreed and inflation-proof. However, there is an accounting conundrum. If we try to think like an accountant and work out the cash equivalency we soon come unstuck as the book values in fiat cash-money terms vary greatly. We could force the situation by considering an estimated value, and regarding these books as restricted cash equivalents. Doing the same across product classes without fiat currency is more challenging.

A limited site builds trust and familiarity, around a product class, whereas an (over) diversification (Palich, Cardinal and Miller, 2000) of offerings may erode them? However, trust maybe related to the kind of trust, if it is distributed trust (Botsman, 2017) based on the user reputational capital then offering diversity is not the issue, rather the current-see approach shows it is harder to monitor flows in many capitals.

VTS-kodit limits its Pisteet kotiin® mainly due to tax complications, something affecting the community currencies throughout Finland. Nevertheless, there is a legal possibility to turn tenants into cooperative members and allow them to trade with each other (Unkuri, 2018) which would bypass this issue to some extent. The system was extended to allow earning of points by community engagement.

We can use the current-see lens to see this worked to support the VTS-kodin Asukasdemokratia-rhymä (literally: ResidentDemocracy-group). This AD-group "develops residential activity and takes a stand on the economic and operational development of VTS homes. The AD-group meets 4-6 times a year often around a major theme, such as property maintenance or housing satisfaction" (Jantunen, 2017). The AD-group, and Asukastoimikunta (residence committee) members get points. Points are available for participating in related courses too (VTS, 2017). These incentivise residents to be active community members. If points could be traded with other residents it could be beneficial in spreading knowledge capital and wealth for solidarity, rather than individualism as at present.

Such a forward-thinking policy has precedence in public policy, and thus cultural familiarity in the housing sector, in Finland. Homelessness is tackled in Finland under a Housing First model, where good quality housing is given to homeless people and then remedial work is done on the factors affecting them such as alcoholism, criminal recidivism et cetera (Pleace et al., 2016). The Pisteet kotiin® could be given in such a futuristic way, where home-improvements and rewards for civic engagement were given prior to the engagement. This would create a credit and a standard of deferred payment function in the points-system. This is much as fiat money functions with loans for home improvement or career development. Pisteet kotiin® is now being described as a "tenant benefit system" and being updated where the "aim is to improve and diversify the use of the benefit points" (Jantunen,

2019) within “part of the implementation of VTS-kodit’s strategy, in accordance with which we provide our tenants with the foundation for a good life” (Eskelinen, 2019).

The limitations of these proto-community currencies are there by design to fulfil the purposes which the communities that use them want. They are adequate for the purposes which they are aimed to fulfil and evolving them to meet a wider range of flows would change the milieu in which they operate, with a different focus and outcomes. While this can be desirable, this makes them no longer as merely a tool to serve those existing communities, but engages with the paradigm of technological determinism, whereby a technology shapes the community by its usage. Transformation and alteration of the community necessarily will alter the flows and capitals. If such social engineering is desirable or not is a matter of opinion. In Finland public-policy is having a limited influence on the municipal application of community currencies and very much it is the cultural evolution of the community members themselves that are opting to use or not use these systems and thus determine their futures.

BIBLIOGRAPHY

Adams, M. (2015) Intangibles and sustainability: holistic approaches to measuring and managing value creation. *Journal of Applied Corporate Finance* 27(2): 87-94.

Adams, T., Jones, S. and Ellis, C. (2015) *Autoethnography: Understanding Qualitative Research*, New York: Oxford University Press

Ahmad, A. (2019) When the Name Matters: An Experimental Investigation of Ethnic Discrimination in the Finnish Labor Market. *Sociological Inquiry* XX(X): 1-29.

Alassouli, H. M. (2018). *Internet Earning Through Cryptocurrency Airdrops, Bounties, Cloud Mining and Investment Websites*, Morrisville NC: Lulu.com.

Aliyu, U. (2018) Money is a Dynamic Instrument. *EPRA International Journal of Research & Development* 3(12): 116-123.

Anderson, R. (2003) Some Tables of Historical U.S. Currency and Monetary Aggregates Data. Working Paper 2003-006A, St. Louis, USA: Federal Reserve Bank of St. Louis, Research Division.

Angelopoulos, K., Philippopoulos, A. and Vassilatos, V. (2009) The social cost of rent seeking in Europe, *European Journal of Political Economy* 25(3), pp. 280-299.

anttil (2012) Talkoot! Sysmä, Finland: Sysmä Seura. Available: <http://sysmaseura.fi/2012/06/talkoot/> (Accessed: 27.7.2019).

Ariely, D. (2009) Chapter 4. The Cost of Social Norms: Why We Are Happy to Do Things, but Not When We Are Paid to Do Them. In: *Predictably Irrational: The Hidden Forces that Shape Our Decisions*, Revised and Expanded Edition, London: HarperCollinsPublishers 67-88.

Arnsperger, C. (2010) *Full-Spectrum Economics: Toward an Inclusive and Emancipatory Social Science*, 1st Edition, Abingdon: Taylor & Francis

Aubret, N., Nold, C., Jaschko, S., Jauhiainen, A., Lee, C., Roio, D., Koskinen, P. and Milevska, S. (2014) *Autopsy of an Island Currency*, Helsinki: PixaLache.

Bauwens, M., Mendoza, M. and Iacomella, F. (2012) *Synthetic Overview of the Collaborative Economy*, Chiang Mai: P2P Foundation.

BC (2019a) Conventions and Meetings- The Forums - BookCrossing. BookCrossing.com. <https://www.bookcrossing.com/forum/22> (Accessed: 29.7.2019).

BC (2019b) Finnish - Suomi - The Forums - BookCrossing: Foorumi suomalaisille bookcrossaajille. BookCrossing.com. <https://www.bookcrossing.com/forum/30> (Accessed: 27.7.2019).

Bech, M. and Garratt, R. (2017) Des crypto-monnaies émises par les banques centrales? Basle, Switzerland: BIS.

Berentsen, A. (1998) Monetary policy implications of digital money. *Kyklos* 51(1): 89-118.

- Bindewald, L. (2018) The grammar of money: an analytical account of money as a discursive institution in light of the practice of complementary currencies. Doctoral Thesis, Lancaster University.
- Botero, A. and Saad-Sulonen, J. (2013) Peer-Production in Public Services? Emerging Themes for Design Research and Action. In: Manzini, E. and Staszowski, E. (eds.) Public & Collaborative Exploring The Intersection of Design, Social Innovation and Public Policy. 1st Edition, USA: DESIS Network, 1-12.
- Botsman, R. (2017) Who Can You Trust?: How Technology Brought Us Together – and Why It Might Drive Us Apart, New York: Public Affairs
- Brock, A. 2005. FlowSpace Brainstorming Worksheet. New Currency Frontiers (Online).
- Brock, A. (2014) Designing Social Flows - Chapter 6. on Designing Incentives, <http://www.artbrock.com/blog/designing-social-flows-chapter-6-designing-incentives> (Accessed 26.7.2019).
- Brock, A. (2011) Occupy Wall Street: Revision Money Day, New York: Vimeo.
- Brown, N. (2001) F. Ratzel, C. Wissler, and C. Sauer, Culture Area Research and Mapping. CSISS Classics.
- Buchli, V. and Lucas, G. (2001) Archaeologies of the Contemporary Past, London: Routledge
- Buckman, J. (2010) BookMooch: never buy a book again, Helsinki: ArtTECH Seminars.
- Buckman, J. (2011) Coming: 3 point intl mooches. BookMooch http://bookmooch.com/thread/bookmooch_blog/42 (Accessed: 28.7.2019).
- Buckman, J. (c2011) Points Explained. BookMooch <http://bookmooch.com/about/points> (Accessed: 11.5.2020).
- Buckman, J., Petz, M., et al. (2015) Messages: moochme. BookMooch bookmooch.com/m/forum/moochme/0_2/5 (Accessed: 28.7.2019).
- Burns, S. (2006) BitTorrent arrives for books, The Inquirer, (no. 28.7.2019).
- Bäcklund, P. and Mäntysalo, R. (2010) Agonism and institutional ambiguity: Ideas on democracy and the role of participation in the development of planning theory and practice - the case of Finland. Planning Theory 9(4): 333-350.
- Callon, M. (1998) An Essay on Framing and Overflowing: Economic Externalities Revisited by Sociology. The Sociological Review 46(1_suppl): 244-269.
- Cara (c2011) BookMooch Angels Fund (USA: CA) : member bio. BookMooch <http://bookmooch.com/m/bio/bmangels> (Accessed: 11.5.2020).
- Carolyn (2012) Smooch It Forward _ Smoochies for books when you need them. then smooch someone else that needs them later on! BookMooch http://bookmooch.com/forum/pay_it_forward/0/ (Accessed: 29.7.2019).
- Case, K., Fair, R. and Oster, S. (2007) 1. The Scope and Method of Economics, Principles of Economics, Boston: Pearson Education: 1-25
- Cato, M-S. and Suárez, M. (2012) Stroud pounds: A local currency to map, measure and strengthen the local economy. International Journal of Community Currency Research 16(D): 106-115.
- Chan, M., Kemp, S. and Finsterwalder, J. (2016) The concept of near money in loyalty programmes. Journal of Retailing and Consumer Services 31: 246-255.
- Cheng, C-W. (2012) The System and Self-Reference of The App Economy: the Case of Angry Birds. Westminster Papers in Communication & Culture 9(1): 47-66.
- Ciffolilli, A. (2003) Phantom authority, self-selective recruitment and retention of members in virtual communities: The case of Wikipedia. First Monday 8(12).

Clarence-Smith, S. (2016). Pour Tous Distribution Center: Auroville's Communal Cooperative as Participatory Platform of Conscious Citizenship. Paper presented at the "28th Annual Conference of the SASE". University of California, 24-26 June 2016.

Cohen, A. (2003) The Hayek/Knight capital controversy: the irrelevance of roundaboutness, or purging processes in time? *History of Political Economy* 35(3): 469-490.

Cord, D. J. (2014) *The Decline and Fall of Nokia*, Helsinki: Schildts & Söderströms

CoreLedger (2019) What is Tokenization? Everything You Should Know. Medium 6.6.2019. <https://medium.com/coreledger/what-is-tokenization-everything-you-should-know-1b2403a50f0e> (Accessed: 11.5.2020)

Coulson, A., Adams, C., et al. (2015) Exploring metaphors of capitals and the framing of multiple capitals. *Sustainability Accounting, Management and Policy Journal* 6: 290-314.

Curry, A., Wood, B., Passmore, C., Lausala, T. and Eljala, J. (2015) *The High Value Manifesto*. Helsinki: The Association for Finnish Work.

Curry, A., Wood, B., Smith, J. W., Cook, C., Lausala, T. and Eljala, J. (2014) *Making High Value Work: The Business Briefing*. Helsinki: The Association for Finnish Work.

Dalton, G. (1982) Barter. *Journal of Economic Issue* 16(1): 181-190.

Danger, M., Daufresne, T., et al. (2008) Does Liebig's law of the minimum scale up from species to communities? *Oikos* 117(11): 1741-1751.

Das, S. (2015) *The Other in the space of An-Other*. Master Thesis, Theatre Academy (TeaK), University of the Arts Helsinki.

Ekins, P., Hillman, M. and Hutchinson, R. (1992) *The Gaia Atlas of Green Economics*. A Gaia Original, New York: Anchor Books

elfbiter (2019) BookCrossing - Elfbiter's Bookshelf. BookCrossing.com. <https://www.bookcrossing.com/mybookshelf/elfbiter/> (Accessed: 29.7.2019).

Elliott, B. and Elliott, J. (2012) Part I Preparation of Financial Statements: 5 Statements of cash flows: Cash equivalents In: *Financial Accounting and Reporting: MyAccountingLab 15th Edition*, Edinburgh: Pearson Education Limited, 109.

Eriksen, T. (2001) Exchange and Consumption. In: *Small Places, Large Issues: An Introduction to Social and Cultural Anthropology*. London: Pluto Press, 217-240.

Ernst & Young LLP. (2019) Statement of cash flows: 3. Cash and cash equivalents. In: *International GAAP 2019: Generally Accepted Accounting Practices under International Financial Reporting Standards*. Global Edition 14th Edition, Chichester: John Wiley & Sons, 2997-3041.

Eskelinen, S. (2019) Take advantage of VTS-kodit's tenant benefits, *Asukasviesti* (VTS-kodit residents' magazine) (3:2019):2.

Eskelinen, T. (2020) The conception of value in community economies. In: Eskelinen, T., Hirvilammi, T. and Venäläinen, J. (eds.) *Enacting Community Economies within a Welfare State*. Colchester: MayFly Books, 23-45.

Fast, K., Campbell, A., et al. (2008) *The People Who Use BookMooch: A closer look at BookMooch users in the wild*, Kent: Kent State University. <http://bookmooch.com/about/finalreport>.

Finidori, H., Sayfan G. and Henfrey, T. *Towards a Fourth Generation Pattern Language: Patterns as Epistemic Threads for Systemic Orientation*, PURPLSOC: Pursuit of Pattern Languages for Societal Change. Krems, 3-5 July 2015. Austria: Neopubli, 19.

Flora, C., Flora, J. and Gasteyer, S. (2018) *Rural communities: Legacy + Change*, New York: Routledge

Flower, J. (2015) The international integrated reporting council: a story of failure. *Critical Perspectives on Accounting* 27: 1-17.

- Fresco, J. (2002) *The Best that Money Can't Buy: Beyond Politics, Poverty, & War*, Indiana University: Global Cyber-Visions
- Goodman, L. (1961) Snowball Sampling. *The Annals of Mathematical Statistics* 32(1): 148-170.
- Guriev, S. and Ickes, B. (2000) Chapter 6. Barter in Russia. In: Seabright, P. (ed.) *The Vanishing Rouble: Barter Networks and Non-Monetary Transactions in Post-Soviet Societies*, Cambridge: Cambridge University Press: 147-175.
- Hallikainen, V. (2019) A new initiative launched to make Finland a fintech forerunner - Helsinki Business Hub. Helsinki: Helsinki Business Hub Ltd Oy. <https://www.helsinkibusinesshub.fi/new-initiative-launched-to-make-finland-fintech-forerunner/> (Accessed: 27.7.2019).
- Harrison, R. and Schofield, J. (2009) Archaeo-Ethnography, Auto-Archaeology: Introducing Archaeologies of the Contemporary Past. *Archaeologies: Journal of the World Archaeological Congress* 5(2): 185-209.
- Härmä, A. (2013) *The success factors of the Finnish mobile game industry: a strategic overview: cases Rovio & Supercell*. Bachelor Thesis, International Business, Turku University of Applied Sciences.
- Heinonen, L. and Leivo, T. (2015) *Red Tampere Guide*, Tampere: Työväenmuseo Werstas
- Helsinki Fintech Farm (2019) *Fintech Landscape - Helsinki Fintech Farm*. Helsinki: HUB13. <https://www.helsinkifintech.fi/fintech-landscape/> (Accessed: 27.7.2019).
- Hill, R. and Myatt, P. (2010) *The Economics Anti-Textbook: A Critical Thinker's Guide to Microeconomics*, London: Zed Books
- Hooghiemstra, S. N. and de Buysere, K. (2016) The Perfect Regulation of Crowdfunding: What Should the European Regulator Do? In: Brüntje, D. and Gajda, O. (eds.) *Crowdfunding in Europe: State of the Art in Theory and Practice*. Cham: Springer, 135-165.
- Hudson, M. (2004) The Archaeology of Money: Debt versus Barter Theories of Money's Origins. In: Wray, L.R. (ed.) *Credit and State Theories of Money: The Contributions of A. Mitchell Innes*. Cheltenham: Edward Elgar Publishing, 99-127.
- Hülsmann, J. (2007) *The Ethics of Money Production*, Auburn: Ludwig von Mises Institute
- Humana, B. and Schwartz, G. (2008) Chapter 8. The Patterns: 63 Community Currencies. In: Schuler, D. (ed.) *Liberating Voices*. Cambridge: The MIT Press, 293-296.
- Humphrey, C. (2005) Barter and Economic Disintegration. *Man, New Series*, 20(1): 48-72.
- Hurst, J. (1973) *Veazie Bank v. Fenno*, 75 U.S. 533 (1869), 549. In: *II Allocations of Control over the System of Money*. In: *A Legal History of Money in the United States, 1774 – 1970*. Lincoln: University of Nebraska Press, 133-336.
- Husted, S. and Rush, M. (1984) On Measuring the Nearness of NearMoneys. *Journal of Monetary Economics* 14: 171-181.
- Ingham, G. (1996) Money is a Social Relation. *Review of Social Economy*, Special Issue on Critical Realism (Winter 1996) 54(4): 507-529.
- Jantunen, R. (2012) Pisteet kotiin hyvästä asumisesta, *Asukasviesti* (Tammikuu 2012:1): 8.
- Jantunen, R. (2017) Aktiivinen asukastoiminta on avain viihtyvyyteen: AD-ryhmä kehittää asukastoimintaa, *Asukasviesti* (Syyskuu 2017:3): 3.
- Jantunen, R. (2018) Pistekertymätaulukko 1.1.2019 - Point Accumulation Table. Tampere, Finland: VTS-kodit. <https://www.vts.fi/attachments/2018-12-11T13-43-3239.pdf> (Accessed: 29.7.2019)
- Jantunen, R. (uncredited) (2019) Examples of Pisteet kotiin renovations: Order a renovation and pay for it with your points - Benefit voucher changes, *Asukasviesti* (3:2019): 2.

Jevons, W. S. (1989 [1875]) Money and the Mechanism of Exchange. In: Star R.M. (ed.) *II. Bilateral Trade: General Equilibrium Models of Monetary Economies: Studies in the Static Foundations of Monetary Theory*. San Diego: Academic Press, Inc., 55-65.

Jourdan, S. (2020) Helicopter money as a response to the COVID-19 recession in the Eurozone. Brussels: Positive Money Europe.

JVA, (2019) Jyväskylän Vuokra-asunnot Oy 14.2.2019 - Pisteet kotiin.
<https://www.jva.fi/sahkoisetpalvelut/pisteetkotiin/> (Accessed: 17.12.2019)

Kamps, J. and Kleinberg, B. (2018) To the moon: defining and detecting cryptocurrency pump-and-dumps. *Crime Science* 7(1): 18.

Kennedy, M. (2012) *Occupy money: Creating an economy where everybody wins*, Gabriola Island: New Society.

Kennedy, M., Lietaer, B. and Rogers, J. (2012) *People money: The promise of regional currencies*, Axminster: Triarchy Press.

Kivistö, A. (2017) VTS-kotien uusi hallitus esittäytyy, *Asukasviesti* (Syyskuu 3: 2017): 6-7.

Klausinger, H. (1990) The Early Use of the Term "Veil of Money" in Schumpeter's Monetary Writings: A Comment on Patinkin and Steiger. *The Scandinavian Journal of Economics* 92(4): 617-621.

Köppä, T., (2009). Remarks on rural co-operation in Finland. Keynote presentation at the "Alternative Economy Cultures seminar at Pixelache Helsinki Festival". Helsinki: Kiasma Museum of Contemporary Art. Slide 2, 3-5 April 2009. In: Paterson, A. (2010) A Buzz between Rural Cooperation and the Online Swarm. *Affinities: A Journal of Radical Theory, Culture, and Action* 4(1): 83-109.

Korhonen, J., Honkasalo, A. and Seppälä, J. (2018) Circular economy: the concept and its limitations. *Ecological economics* 143: 37-46.

Kuhnle, S. and Hort, S. E. (2004) *The developmental welfare state in Scandinavia: Lessons for the developing world*. Geneva: United Nations Research Institute for Social Development

Lahti, E. (2013) *Above and Beyond Perseverance: An Exploration of Sisü*. Master Thesis, University of Pennsylvania.

Lahti, V-M. and Selosmaa, J. (2013) *A Fair Share: Towards a New Collaborative Economy*, Helsinki: Atena Kuastannus Oy.

Lee, DKC (2017) *Fintech Tsunami: Blockchain as the Driver of the Fourth Industrial Revolution*, SSRN <http://dx.doi.org/10.2139/ssrn.2998093> (Accessed 29.7.2019).

Levy, M. and Wyckoff, B. (2014) *Connecting Community Assets with Market Demand for Lasting Livelihoods: Meeting New Challenges with Innovative Approaches*, Illinois Inst. for Rural Affairs: Rural Research Report: 1-8.

Lietaer, B. (2001) A working definition of money. In: *The Future of Money: A new way to create wealth, work, and a wiser world*. New York: Random House, 93-94.

Lietaer, B., Arnsperger, C., Goerner, S. and Brunnhuber, S. (2012) *Money and Sustainability: The Missing Link. A Report from the Club of Rome – EU Chapter to Finance Watch and the World Business Academy*. Axminster: Triarchy Press.

Leitner, H. (2015) A Bird's-Eye View on Pattern Research. In: Baumgartner, P. and Sickinger, R. (eds.) *Volume 1: Proceedings PURPLSOC 2014: Pursuit of Pattern Languages for Societal Change*. Krems: Neopubli, 16-37.

Leitner, H. and Nahrada, F. (2014) *Lebendigkeitwissenschaft: Zum Begriff "Lebendigkeit" und zum Programm von "Lebendigkeitwissenschaft"*. Theoriekultur-Wiki.
 Available: <http://www.theoriekultur.at/wiki/Lebendigkeitwissenschaft>

Lovelock, J. (2007) What is Gaia? In: *The Revenge of Gaia: Why the Earth is Fighting Back and How We Can Still Save Humanity*. London: Penguin, 19-49.

- Marglin, S. (2008) *The Dismal Science: How Thinking Like an Economist Undermines Community*, Cambridge: Harvard University Press.
- Marklund, S. (1988) Welfare state policies in the tripolar class model of Scandinavia. *Politics & Society* 16:4: 469-485.
- Martignoni, J. (2012) A new approach to a typology of complementary currencies. *International Journal of Community Currency Research* 16(A): 1-17.
- Mashaire, P. (2014) *Racism and related discriminatory practices in employment in Finland*, Brussels: European Network Against Racism
- Marx, K. (2009 [1844]) *Economic & Philosophic Manuscripts of 1844*. Available: <https://www.marxists.org/archive/marx/works/download/pdf/Economic-Philosophic-Manuscripts-1844.pdf> (Accessed 23.5.2020).
- McBride, A. (2009) *Unofficial Bank of BookMooch*. BookMooch https://web.archive.org/web/20150126144238/http://wiki.bookmooch.com/index.php?title=Unofficial_Bank_of_BookMooch (Accessed: 28.7.2019).
- McLeay, M., Radia, A. and Thomas, R. (2014) Money in the modern economy: an introduction. *Quarterly Bulletin* 2014 Q1: 4-13.
- Menger, K. (1989 [1892]) On the origin of money. In: Star R.M. (ed.) *II. Bilateral Trade: General Equilibrium Models of Monetary Economies: Studies in the Static Foundations of Monetary Theory*. San Diego: Academic Press, Inc., 67-82.
- Mihm, S. (2007) *A Nation of Counterfeiters: Capitalists, Con Men, and the Making of the United States*, Cambridge: Harvard University Press.
- Miyazaki, Y. and Kurita, K. (2018) The diversity and evolutionary process of modern community currencies in Japan. *International Journal of Community Currency Research* 22 (Winter): 16-36.
- More, T. (2012 [1516]) *Utopia*, London: Penguin.
- Morgan, M. (2001) The formation of "modern" economics: engineering and ideology. LSE Department of Economic History, Working Paper No. 62/01. Available: <http://www.lse.ac.uk/Economic-History/Assets/Documents/WorkingPapers/Economic-History/2001/WP6201.pdf>
- Naudé, P. (2017) Can we overcome the anthropocentrism bias in sustainability discourse? *African Journal of Business Ethics* 11(2).
- Neuendorf, K. (2017) *The Content Analysis Guidebook*, 2nd Edition, Los Angeles: SAGE.
- Nishibe, M. (2018) Understanding the diversity of CCs world-wide in globalization and deindustrialization as an evolutionary tree diagram. *International Journal of Community Currency Research* 22 (Winter): 13-36.
- Nowak, M. and Sigmund, K. (2005) Evolution of indirect reciprocity. *Nature* 437: 1291-98. OECD (2015) *OECD Digital Economy Outlook 2015*. Paris: OECD Publishing, 282.
- Ould-Ahmed, P. (2010) Can a community currency be independent of the state currency? A case study of the credit in Argentina (1995–2008). *Environment and Planning A* 42(6): 1346-1364.
- Palley, T. (2018) The evolution of money debate: Functionalism versus chartalism, Schumpeterian dynamics, Gresham's fallacy, and how history constrains public finance. *Forum for Macroeconomics and Macroeconomic Policies Working Paper No. 34*, Macroeconomic Policy Institute (IMK), Hans-Böckler-Stiftung. Available: <https://www.econstor.eu/handle/10419/213391>
- Palich, L., Cardinal, L. and Miller, C. (2000) Curvilinearity in the diversification–performance linkage: an examination of over three decades of research. *Strategic Management Journal* 21(2): 155-174.
- Parker, R. (2014) Bookkeeping Barter and Current Cash Equivalents in Early New South Wales. In: Parker, R. (ed.) *Accounting in Australia: Historical Essays* Routledge Library Editions: Accounting, Abingdon: Routledge: 46-60.

- Paterson, A. (2010) A Buzz between Rural Cooperation and the Online Swarm. *Affinities: A Journal of Radical Theory, Culture, and Action* 4(1): 83-109.
- Paterson, A. (2011) Stratigraphical recall: An auto-archaeological interpretation of artistic fieldwork. *Journal of Visual Art Practice* 10(1): 51-69.
- Paterson, A. (2020) agryfp, Archive of methods and work, Helsinki: agryfp.info
- Peña de Carrillo, C., de la Rosa i Esteve, J., Carrillo Peña, P. and Pharow, P. (2018) Identification of barriers and solutions for adoption of social, complementary and/or virtual currencies. *International Journal of Community Currency Research* 22 (Summer): 125-140.
- Pesonen, P. and Riihinen, O. (2018) *Dynamic Finland: The Political System and the Welfare State*, Helsinki: Suomen Kirjallisuuden Seura
- Petz, M. (2017) 3.2 Pattern languages; 3.3 Artistic Research Methods: a geography of walking another path, and 3.4 Choice of research methodology, In: *Learning in Indigenous Mountain Forest Communities. Case studies in Northern Thailand: White Hmong (Miao), Sheleh Ladhulsi (Lahu), and Pgak'nyau (Karen) Peoples*. Master Thesis Mountain Forestry MSc., The University of Life Sciences and Natural Resource Management, Vienna, 70-76.
- Petz, M. and Eskelinin, T. (2019) Sysmä community currency: an analysis of its success from the perspectives of purposes, stakeholders and promotion. *European Countryside* 11(3): 417-442.
- PHL 2017. Maakuntahallitus: minutes 14.08.2017, Lahti: Päijät-Hämeen liitto.
- Pleace, N., Knutagård, M., Culhane, D. and Granfelt, R. (2016) The Strategic Response to Homelessness in Finland: Exploring Innovation & Coordination within a National Plan to Reduce & Prevent Homelessness. In: Nichols, N. and Doberstein, C. (eds.) *Exploring Effective Systems Responses to Homelessness*, Toronto: Canadian Observatory on Homelessness: 426-442.
- Place, C. (2018) Impact assessment of monetary innovation: sustainability with existing frameworks and integral approach. *International Journal of Community Currency Research* 22 (Winter): 74-88.
- Place, C. and Bendell, J. (2019) The Lake District Pound, a Holistic Impact Assessment? Using Integral Research Methods to Study a Currency Innovation. Paper presented at the "Going Digital? New Possibilities of Digital-Community Currency Systems 5th Biennial RAMICS International Congress". Hida-Takayama: RAMICS, 11-15 September 2019.
- Polanyi, M. (2001 [1944]) Part Two: Rise and Fall of Market Economy, II. Self-Protection of Society, 16. Market and Productive Organization, In: *The Great Transformation: The Political and Economic Origins of Our Time*, Boston: Beacon Press: 201-210.
- pooa (2015) talkoot Reply in: BookCrossing Forum > Finnish - Suomi: PKS: Kierrätystehdas 25.-26.4.2015. <https://www.bookcrossing.com/forum/30/516627/#top0> (Accessed: 22.12.2019).
- Porritt, J. (2007) Box 6.1 The Five Capitals, In: *Capitalism as If the World Matters*, London: Earthscan, 139.
- Prendergast, C. and Stole, L. (2000) Chapter 2. Barter Relationships. In: Seabright, P. (ed.) *The Vanishing Rouble: Barter Networks and Non-Monetary Transactions in Post-Soviet Societies*, Cambridge: Cambridge University Press: 35-70.
- Pujol, N. (2011) *The Mind Share Market: The Power of an Alternative Currency*, Scotts Valley: CreateSpace, an Amazon company
- Puttonen, H. (2001) *The Code*, ARTE France: Making Movies Oy and ADR Productions, 58m53s.
- Ricardo, D. (2001 [1823]) Chapter 2. On Rent. In: *The Principles of Political Economy and Taxation*. Kitchener: Batoche Books: 39-51.
- Robert, S. (2008) Words and their meanings: Principles of variation and stabilization. In: Vanhove, M. (ed.) *From Polysemy to Semantic Change: Towards a typology of lexical semantic associations*. Amsterdam: John Benjamins Publishing Company: 55-92.

- Roland, E. and Landua, G. (2015) *Regenerative Enterprise: Optimizing for Multi-Capital Abundance*, Morrisville: Lulu Press, Inc.
- Saadia, M. (2016) *Treconomics: The Economics of Star Trek*, San Francisco: Pipertext
- Salisbury-Rowswell, R. (1957) *Economic change among the Siane tribes of New Guinea*. Doctoral Thesis, Australian National University.
- Samuelson, P. (1997 [1948]) C. Exchange, Division of Labor, and Money. In: *Economics: The Original 1948 Edition*, New York: McGraw-Hill: 51-59 p53.
- Samuelson, P. and Nordhaus, W. (2010a) Money and the Financial System. B: The Special Case of Money. 458-463; (2010b) Overview of Macroeconomics, 367-385 Both in: Nordhaus, W. (ed.) *Economics 19th Edition*, New York: McGraw-Hill.
- Shafir, E., Diamond, P. and Tversky, A. (1997) Money Illusion. *The Quarterly Journal of Economics* 112(2): 341-374.
- Shcherbinin, M. (2013) *Kulttuuriaktivismi ja yhteisötaiteellisen toiminnan rakentuminen*.
- Siilasmaa, R. (2018) *Transforming NOKIA: The Power of Paranoid Optimism to Lead Through Colossal Change*, New York: McGraw-Hill Professional
- Simmel, G. (1896) Das Geld in der modernen Kultur. *Zeitschrift des Oberschlessischen Berg- und Hüttenmannischen Vereins* 35: 319-24.
- Simmel, G. (2004 [1907]) Money is responsible for impersonal relations between people, and thus for individual freedom. In: Frisby, D. (ed.) *The Philosophy of Money*. London: Routledge: 298-304.
- Sjöstedt, T. and Noponen, J. (2011) *World-class sustainable solutions from Finland* Helsinki: Finnish Innovation Fund Sitra, VTT Technical Research Centre of Finland, Tekes.
- Snelders, H., Hussein, G., Lea, S. and Webley, P. (1992) The polymorphous concept of money. *Journal of Economic Psychology*, 13(1): 71-92.
- Soroka, S. and Wlezien, C. (2010) Public Preferences and Spending – A Preliminary Analysis. In: *Degrees of Democracy: Politics, Public Opinion and Policy*. Cambridge: Cambridge University Press, 63-87.
- Sparavigna, A.G. (2014) Some Notes on the Gresham's Law of Money Circulation. *International Journal of Sciences* 2: 80-91.
- Stewart, I. and Cohen, J. (1997) The Reductionist Nightmare. In: *Figments of Reality: The Evolution of the Curious Mind*. Cambridge: Cambridge University Press, 33-62.
- Stonham, N. (2019) *Happiness Circles*. Vienna Happiness Project <https://viennahappinessproject.wordpress.com/> March 16, 2019 (Accessed 23.5.2020)
- Suberg, W. (2019) *Belfast Launches Own Digital Currency to Boost Rockefeller Social Project Success*, Cointelegraph, 8.5.2019. <https://cointelegraph.com/news/belfast-launches-own-cryptocurrency-to-boost-rockefeller-social-project-success>.
- tainak (2018) *Hankintaohje_remontit_asennukset*. Tampere: VTS-kodit. <https://www.vts.fi/attachments/2019-07-17T10-58-0962.pdf> (Accessed: 29.7.2019).
- Tamminen, M. 2014. *Tehrään meistä ny numeroo – vaikuttavia naisia Tampereelta -näyttely Vapriikissa 30.1.–31.8.2014*. Tampella IX, Tampere: Siiri.
- Teddle, C. and Yu, F. (2007) Mixed methods sampling: A typology with examples. *Journal of Mixed Methods Research* 1(1): 77-100.
- Tennant, G. (2008) About | The BookMooch Journals. <https://bookmoochjournals.com/about/> (Accessed: 28.7.2019).

Tessieri, E. (2017) How systemic racism and discrimination work in the Finnish workplace, *Migrant Tales - Speaking out for Others since 2007*. <http://www.migranttales.net/systemic-racism-discrimination-works-finnish-workplace/> (Accessed: 19.6.2017).

Truman, E., Lane, D. and Elliott, C. (2017) Defining food literacy: A scoping review. *Appetite* 116: 365-371.

Unkuri, K. (2018) VTS-kotien asukkaiden osallisuutta lisäävä osuuskunta: Tutkimuksellinen kehittämishanke.

Venter, H. (2018) Digital currency – A case for standard setting activity. A perspective by the Australian Accounting Standards Board (AASB). EEG MEETING, MAY 2018, AGENDA PAPER 2D <https://www.ifrs.org/-/media/feature/meetings/2018/may/eeg/ap2d-digital-currencies-paper.pdf> (Accessed: 23.5.2020).

VTS (2014) Esittely - VTS-kodit vuokra-asuntoja Tampereella. Tampere: VTS-kodit. <https://www.vts.fi/vtskodit/esittely/> (Accessed: 27.7.2019).

VTS (2017) Asukasdemokratia - VTS-kodit vuokra-asuntoja Tampereella. Tampere: VTS-kodit. <https://www.vts.fi/asuminen/asuminenvtskodeissa/asukasdemokratia/> (Accessed: 29.7.2019).

VTS (2018) Pisteet kotiin - VTS-kodit vuokra-asuntoja Tampereella. Tampere: VTS-kodit. <https://www.vts.fi/asuminen/asuminenvtskodeissa/pisteetkotiin/> (Accessed: 29.7.2019).

Wagter, H. & and Russell, J. (2016) *Cultivating Flows: How Ideas Become Thriving Organizations*, Axminster: Triarchy

Warner, J. (2014). The Future of Community Currencies: physical cash or solely electronic? Paper presented at the "The Usage, Costs and Benefits of Cash-revisited, International Cash Conference". Dresden: Deutsche Bundesbank (Hg.), 15-18 September 2014.

West, R. (1978) Money in the colonial American economy. *Economic Inquiry* 16(1): 1.

Wikipedia contributors (2019) Money supply, Wikipedia, The Free Encyclopedia, (Accessed 27.7.2019).

Wilber, K. (2001) *A Theory of Everything: An Integral Vision for Business, Politics, Science and Spirituality*, Boston: Shambhala

World Cleanup Day (2018) Viiala – Maailman Siivouspäivän talkoot Viialassa. Rovaniemi. Finland: WorldCleanupDay.org (Accessed: 27.7.2019).

Ye, S. (2013) Reciprocity in online markets: empirical studies of auction and barter markets. Doctoral Thesis, University of Maryland.

Zelizer, V. (1994) The Marking of Money. In: *The Social Meaning of Money: Pin money, paychecks, poor relief, & other currencies*. New York: BasicBooks, 1-35.

Ziegler, R. (2008) What makes the Kula go round? A simulation model of the spontaneous emergence of a ceremonial exchange system. *Social Networks* 30: 107-126.

ENDNOTES

¹ "the definition I threw up there for currencies was talking about current-sees, first of all the ability to see currents, to see flows, the ability to see those different layers it's referring to that as a language of value ... what I am suggesting is that current-sees are social DNA. They are the way that we embody agreements for ... what we value and how we are gonna interact around that value" m19:19; "current-sees are the symbol systems to make flows at different levels visible" m20:25 (Brock, 2011).