

ON THE SPIRIT OF THE GIFT THAT IS *STONE AGE ECONOMICS*

CHRIS GREGORY [★]

ABSTRACT

Graeber, in his forward to the 2017 Routledge Classic edition of *Stone Age Economics (SAE)*, argues that the discipline of economics needs to be totally re-imagined if we are to survive as a species, and that there is no single work better suited to this task than SAE. How are we to make sense of this paradoxical argument? How can a book about the ‘stone age’ help us reimagine an economics of the future? Why has SAE had a profound effect on almost every discipline except economics? Such are the questions I will address here by contrasting Sahlins’s anthropological conception of value with the non-anthropological conception that informs both mainstream economics and that of its neo-Ricardian critics. Sahlins’s anthropological economics, when viewed from the perspective of Graeber’s development of it, is a form of ‘primitive economics’ in the sense of ‘first principles of economics’ or ‘elementary economics.’ Anthropological economics discovers these elementary principles using the methods of intensive fieldwork, deep historical analysis, and comparative cultural geography. Such an approach can reveal the Eurocentric preconceptions that imprison the value concepts of non-anthropological economics in a European economy of yesterday. It can also suggest reconceptualization, and indicate a way forward through modification in the light of new historical and ethnographic evidence.

Keywords: Use-Value, Exchange-Value, Reciprocity, Stone, Steel, Wheat, Rice, Taro, Menger, Walras, Jevons, Sraffa, Eurocentrism, Anthropological Economics.

[★] Australian National University. Address for correspondence: Chris.Gregory@anu.edu.au. I dedicate this essay to David Graeber who died, aged 59 years, while I was writing this essay. Like many others around the planet, it was my privilege to be able to get to know this extraordinary man. What always struck me about David was the fact that, despite his encyclopaedic knowledge of the deep political and economic history and comparative ethnography of Man’s inhumanity to woman and other men, he was always optimistic about the future. In his last email to me on 17 June 2020 he wrote. “I have a strange feeling the world is going to be okay. There’s a generational revolt unlike anything I’ve ever seen – and I’ve seen a lot!” David was a student of, and political activist for, the bright side of life. He has shown us what a truly anthropological economics can be. His Foreword to the 2017 edition of SAE argues the case for awarding Sahlins the Nobel Prize for Economics. My essay adds supports his case, but had he not passed away, I would have proposed they get a joint award.

1. "WHAT IS *STONE AGE ECONOMICS* ALL ABOUT?"

The essays assembled in this volume have had a profound impact on any number of academic disciplines – the notion of the three circles of reciprocity developed in “On the Sociology of Primitive Exchange” alone has been adopted by archaeologists, historians, classicists, literary theorists, political theorists, psychologists, art historians, sociologists, philosophers, and students of religion. Perhaps the only discipline that has never made significant use of the theoretical tools provided in this collection is economics itself. But then, economists have a long history of rejecting any terms other than their own, convinced they are engaged in something akin to natural science with unique insight into human rationality (that is, they have come to believe that, perhaps alone among the social sciences, they really are scientists, and simultaneously, that they study that domain of human life where people themselves behave most scientifically), they evince a notorious disinterest in theoretical tools developed by anybody else. Economics is perhaps the most insular, the most self-enclosing of disciplines. Which is why it is the most in need of a jolt from the outside (David Graeber 2017, Foreword to the Routledge Classics Edition of *Stone Age Economics*).

As I sit in the Anthropology Department of the Australian National University in 2020 pondering the significance of Sahlins’s book for today in the light of Graeber’s Foreword to the Routledge Classics Edition, I recall a conversation I had in the Marshall Library of Cambridge University in 1976 with a fellow PhD student in economics.

“What is that book you’re reading?” he asked. “*Stone Age Economics* by Marshall Sahlins”, I replied. “What is that all about?” he asked. “Is it a critique of the Chicago School of Economics?”. “No”, I replied, “the title is not a pejorative reference to the Chicago school. It is about something quite different. It is about tribal economies of the kind found in places like Papua New Guinea”.

This was the first of countless times over the course of my doctoral studies in economics that I had to explain what *Stone Age Economics* (hereafter SAE) was about, and why I was interested in such ‘antiquarian’ pursuits. The conversation about the book was typically very short because none of my fellow economics students were the slightest bit interested in the subject matter. The conversation quickly turned to the questions that most interested them: Sraffa’s critique of mainstream neoclassical economics and the question of whether his work rehabilitated the Marxian labour theory of value. I, too, was interested in this tradition of thought, but my concern was to understand where SAE fitted into the broader scheme of things. These questions, I discovered, were ones that anthropology doctoral students were interested in and I began to seek them out. Thus began my slow metamorphosis from economist to anthropologist.

As I look back over my career in the light of Graeber's Foreword, I realise that my journey has been from one cultural order to another, from the self-enclosed world of mainstream economics that has no interest in the theories of people like Sahlins, to another world inhabited by anthropologists, archaeologists, historians, classicists, literary theorists, political theorists, and so on who eagerly embrace his ideas and strive to develop them in a constructive thoughtful, critical way. This poses the question of why mainstream economists have absolutely no interest in Sahlins's work. Graeber supplies part of the answer in his characteristically insightful analysis of the key chapters of Sahlins's book. He shows how they challenge fundamental assumptions economists hold about scarcity, barter, and wealth by drawing attention to the ethnographic facts Sahlins uses to support his arguments about original abundance, the historical primacy of gift exchange, and the role of leisure and children as the most important forms of wealth. Graeber also charts the unprecedented prestige mainstream economics acquired in the 1980s and 1990s, noting that this collapsed with the crash of 2008 when people realised that economists had no idea what had happened or why. In Graeber's (2017: xviii) opinion, economics was past its use-by date long before this because it "still trying to solve nineteenth century problems: how to increase overall productivity and assure an efficient distribution of necessities under conditions of overall scarcity".

Graeber also locates Sahlins's thought in its historical context, showing that SAE is, like all books, a product of its time, but arguing that, like wine, its use-value may improve with time.

It's clear that, if our species is to survive, we're going to have to come up with a new economic discipline which starts from very different questions (for instance, how to assure access to the means of life under conditions of rapidly growing productivity and decreasing demand for labor, without also destroying Earth). Everything must be re-imagined. These are exactly the conditions under which it's important to turn to the past – not just our intellectual history but, above all, human history, the endless treasury of human creativity and experiment that only anthropology can unlock – to liberate us from preconceptions, and set us on the road to truly new ideas. There is perhaps no single work of anthropology that so lends itself to this task as *Stone Age Economics* (Graeber 2017: xviii).

This is a big claim. How can a book about the non-European 'stone age' liberate us from our preconceptions and set us on the road to new ideas in the 21st century? At first glance the idea seems preposterous, but as I reread SAE today, and reflect on my own career over the past fifty years, I am inclined to think that there is something to Graeber's claim. With the benefit of hindsight, I can now see how I should have answered my colleague's question in 1976. "Yes", I should have said, "SAE can be seen as a

critique of the Chicago School of Economics from the perspective of the Chicago School of Anthropology. While there is no evidence that Sahlins intended it, his title can be seen as a play on words of the kind that Sahlins delights in”.

While one can, therefore, read the title of SAE as a pejorative reference to a brand of mainstream economics whose time has passed, the book is, first and foremost, a respectful reference to the cultural order of people in the non-European world who have been engaged in non-industrial modes of production for millennia and, in some cases, still are. Given that words like ‘stone-age’ and ‘primitive’ have acquired derogative meanings of the kind they did not have in Sahlins’s days as a student of anthropology, it is important that we understand these words to mean ‘original’ or ‘first’. Given, too, that he is concerned with ‘economics’ rather than ‘economies,’ a 21st century translation of the title of his book could be ‘First Principles of Economic Analysis’ or ‘Elementary Economic Analysis’. There are, of course, countless books with titles like this but what sets Sahlins’s book apart is that it is an *anthropological* economics. As Sahlins notes in the Preface to the 2017 edition of SAE,

To understand our economy requires the same kind of anthropological sensibility we bring to the study of others. We are one of the others. Forget economic anthropology. We need a truly anthropological economics (Sahlins 2017: xxiv).

In other words, we don’t need yet another sub-discipline of anthropology, we need a new economics based on presuppositions grounded concretely in the ethnographic reality. This reformulation of *Stone Age Economics* as *Elementary Economics* poses new questions: What is anthropological economics? How does it differ from mainstream economics and other traditions of economic analysis? Wherein lies the comparative explanatory advantage of anthropological economics over non-anthropological forms of analysis?

The first two questions are, perhaps, the easiest to answer because they are the most unproblematic. Modern economic analysis has its origins in the study of 18th and 19th century European economic history. While reasonable people may differ on the definition of the ancestral lineage of 21st century economics, few would dispute the fact that Milton Friedman’s (1912-2006) thought can be traced back to Adam Smith (1723-1790) via Jevons (1835-1882), Menger (1840-1921) and Walrus (1834-1910), while Piero Sraffa’s (1893-1983) would go via Marx (1818-1883) and Ricardo (1772-1823) back to Quesnay (1694-1774). At stake here, of course, are the lineages of two competing theories of how use-values become exchange-value. On the one hand we have the marginal utility theory of value, on the other

the labour theory of value. Associated with this we have two concepts of the person as valuer: the shopper in the department store pushing a trolley and the wage-labourer in a factory operating a machine or driving a tractor on a wheat farm.

Sahlins's intellectual genealogy – Polanyi (1886-1964) as father, Mauss (1872-1950) as grandfather – is equally Eurocentric and masculine but grounded in the study of non-European economies. Sahlins's theory of value is likewise concerned with the ancient problem of understanding how use-values become exchange-values, but modified by the addition of the concept of reciprocity as a moral value of 'positive' or 'negative' kind. The economic valuer in Sahlins's world is a trader-diplomat, a warrior for peace in a world of squabbling rich men, poor men, big men and chiefs.

The non-anthropological economist can rightly reply that whatever merits Sahlins's book has, it no longer matters because of the undisputed historical fact that the European economy has become a global force that dominates the world. The central problem facing humanity today, they could reasonably argue, is how is to understand the laws of motion of this economy, not antiquarian problems of a world that is no more. Two responses can be made to arguments of this kind. Firstly, an anthropological economist concerned with the problem of poverty in the non-European parts of the world could make the point that the forces of globalism have been very uneven in their effect, and that the problem of economic development requires an understanding of, for example, the values that inform the actions of these people.

A second approach finds fundamental problems in the theory of use-value and exchange-value of the non-anthropological economist. This is the approach that I will take here. I will compare and contrast the elementary principles that inform Sahlins's anthropological economics with those that inform non-anthropological economic analysis. This will reveal elementary problems in the latter that have serious consequences. These elementary problems, we will see, have their origins in unexamined Eurocentric assumptions of non-anthropological economics. Eurocentric thought is not a problem in itself, but it becomes one when a theorist universalises or generalises an elementary principle beyond its valid geographical or historical limits.

In order to limit the scope of this essay, I will limit myself to a consideration of the elementary aspects of four exemplary theorists: Menger, Walras and Jevons on the one hand, and Sraffa on the other. Menger, writing in German, Walras, writing in French, and Jevons, writing in English, deserve our attention as the near simultaneous founders of marginal utility theory of scarce value in the 1870s, an extraordinary case of convergent evolution of a new paradigm. This new paradigm has emerged triumphant over the

old labour theory of surplus value paradigm. Marx's *Capital*, published just a few years before in 1876, was, from the point of view of marginal utility theorists, the last gasp of the old paradigm; he was long dead and buried when I began to study mainstream economics in the 1960s. Sraffa's classic work, *Production of Commodities by Means of Commodities* (hereafter PCMC), first published in 1960, is an attempt to revive the surplus approach. While Sahlins makes no mention of Sraffa in SAE, Sahlins's surplus approach invites comparison with the 'extremely simple society' with which Sraffa begins his analysis. As we shall see, this 'extremely simple society' fails to pass the test of being an 'elementary economy'. In Sraffa's case, we will see that he has a 'wheat-centric' concept of reproduction that blinds him to obvious historical facts about the destructive use-value of iron. The marginal utility theorists, for their part, universalise historically specific facts of late 19th century European shopping practices and develop Eurocentric theories of scarce value that admit of no exceptions. Their theories are scientific in the sense that their concepts of space and time derive from physics rather than anthropology, i.e., they abstract from economic history and cultural geography.

Sahlins's theory of value in SAE has its problems too, but he draws attention to the problematic assumptions that inform his theories and, as such, indicates a way forward in the light of new historical and ethnographic data. His star student, David Graeber, has cleared this path and shown us what a 'truly anthropological economics' is all about. Anthropological economic analysis defies simple definition but a detailed study of *Stone Age Economics*, in the light of Graeber's books *on* value (2001) and debt (2011), amongst others, would reveal the following minimum requirements:

- long term ethnographic fieldwork, ideally in an unfamiliar culture;
- a thorough grasp of the history of economic thought;
- a thorough grasp of the social and economic history of the world;
- a cultural geography of the world;
- an encyclopaedic knowledge of ethnographic archive and the history of anthropological thought;
- an historically specific concept of the person as valuer;
- an historically specific concept of wealth;
- a theory of value that locates the ancient distinction between use-value and exchange-value in its broader value context of negative and positive reciprocity;
- the development of general theories from a close examination of ethnographic specifics.

There is, as Marx (1867: Preface) might say, no royal road to anthropological economics, “and only those who do not dread the fatiguing climb of its steep paths have a chance of gaining its luminous summits”.

Let us now see how SAE compares, firstly, with the scarcity approach, and secondly, with Sraffa’s surplus approach. I am concerned with the spirit of the gift that is Sahlins’s SAE, not with what he ‘really meant’ or where he is ‘really wrong’. As the saying goes, when it comes to gift giving it is the thought that counts. The spirit of Sahlins’s gift, as I see it, is the invitation to think anew about elementary aspects an economic analysis geared towards a better future for *Homo sapiens*.

2. MAINSTREAM ECONOMICS: “NO EXCEPTION TO IT CAN BE FOUND IN HUMAN ECONOMY”

The origin myth of neoliberal economics, Hayek (2007: 12) rightly notes, is the tale of the “independent and practically simultaneous discovery of the principle of marginal utility by William Stanley Jevons (1871), Carl Menger (1871), and Léon Walras (1874)”. This origin myth, like all myths, has varied greatly as it has been retold here and there by friend and foe usually without reference to the ethnographic and historical facts of its emergence.

Jevons, an Englishman, grounded his discovery in the late 18th century thought of Jeremy Bentham and the specific historical context of the late 19th British economy, but formulated the central propositions concerning wealth and value in mathematical terms.

Walras, a Frenchman and pure mathematician, grounded his discovery in a critique of Smith and others, and gave the theory a highly sophisticated mathematical expression. His book was published three years after the other two, but he notes (1874: 36) that his volume “was almost completely written” when he received a copy of Jevons’s book. He notes the ‘remarkable fact’ that the Jevons’s theory of exchange is “rigorously identical with the formula which serves as my point of departure”. The preface of his book captures the true scientific spirit of the man “I acknowledge Mr Jevon’s priority so far as his formula is concerned, without relinquishing my right to claim originality for certain deductions of my own”.

Menger, an Austrian, grounded his discovery in a critique of the 18th century thought of Adam Smith and the German historical tradition of economic thought. Unlike Jevons and Walras, his book contains not one equation; his primary concern is to stress the *human* dimension of the fundamental elements of the theory of exchange on which it is based.

These three quite distinct approaches to the same problem articulate the substantive elements of a theory of personhood, wealth and value that constitute the central core of 21st century mainstream economics. Of course, the theory has been refined and developed over the past 150 years as the glitches in the theory of utility have been ironed out, the range of economic problems the theory addressed greatly expanded, and the mathematical formalism developed. The substantive content of the marginal utility paradigm must be distinguished from its secondary mathematical form, secondary because mathematics is a form of deductive logic that presupposes a point of departure. In other words, it is not the use of mathematics that defines mainstream economics, but its human dimension, the concept of the person, wealth, and value that its founders gave birth to.

Jevons's theory gives us the theory of the person, one which is a refinement and development of the concept of the 'individual person' he found in Bentham (1780: 52).

Sum up all the values of all the pleasures on the one side, and those of all the pains on the other. The balance, if it be on the side of pleasure, will give the good tendency of the act upon the whole, with respect to the interests of that *individual person*; if on the side of pain, the bad tendency of it upon the whole (Jevons 1871: 12, citing Bentham 1780: 52).

Jevons takes this late 18th Benthamite concept of the person and dresses it up in late 19th century mathematical clothing. This person has *values* and *wealth* as well as its *individuality*. Jevons gives these attributes a modern gloss, one that befits the rebirth of this individual in the late 19th century. Marxists like to stress the rise of industry, and the proletariat, but there were also revolutionary changes in the market as an institution. One of these was the revolution in shopping practices. A highly significant development was the rise of the department store where some 80-85% of the shopping was done by women (Ferry 1960: 3). Jevons reforms Bentham's individual person so that it can cope with this radically new commercial world. His theory is Malinowskian in that it takes the 'native point of view' of the housewife who frequented the department stores of the late 19th century. Jevons fathers the rebirth of the individual person as a shopper who is able to wander freely around the new department store, not the working-class person labouring away in the relative unfreedom of the Manchester clothing factory.

These historical changes transformed the economic geography of the market. As Jevons (1871: 84) notes, the market was originally a "public *place* in a town where provisions and other objects were exposed for sale" (my emphasis). He goes on to argue that the word market "has been gener-

alised, so as to mean any body of persons who are in intimate business relations and carry on extensive transactions in any commodity". In other words, markets are not just here and there, now and then, they are everywhere for most of the time. In like manner, Jevons constructs an individual person who is able to transcend the specificity of the local market place and be in every market all the time.

In London, the Stock Market, the Corn Market, the Coal Market, the Sugar Market, and many others, are distinctly localised; in Manchester, the Cotton Market, the Cotton Waste Market, and others. But this distinction of locality is not necessary. The traders may be spread over a whole town, or region of country, and yet make a market, if they are, by means of fairs, meetings, published price lists, the post office, or otherwise, in close communication with each other (Jevons 1871: 84-85).

The concrete individual person of yesterday can only inhabit this new generalised world if its local personality, too, becomes generalised. The London stockbroker, the Welsh coal miner, the Mancunian factory owner, the Scottish farmer, the Irish Catholic housewife: these distinctions are not necessary. Nay more, personhood must be extended to traders of a non-human kind such as business enterprises and nations. They are all examples of a 'trading body' by which Jevons's means, "in the most general manner anybody either of buyers or sellers. The trading body may be a single individual in one case; it may be the whole inhabitants of a continent in another; it may be the individuals of a trade diffused through a country in a third" (1871: 88). "The farmers of England are a trading body when they sell corn to the millers, and the millers both when they buy corn from the farmers and sell flour to the bakers" (1871: 89), "Thus," concludes Jevons (1871: 90), "our laws of Economy will be theoretically true in the case of individuals, and practically true in the case of large aggregates; and the general principles will be the same, whatever the extent of the trading body considered".

This concept of the individual person has many familiar features for an anthropologist. The first is personification, the extension of personhood to non-human persons. In Jevons's case business enterprises and nations are personified, rather than birds and animals as in the case in many non-European cultures of the world.

So far so good, but where Jevons's concept of the individual person becomes problematic for the anthropologist is when social and cultural differences between people are reduced to differences in numerical quantity. Jevons (1871: 90), to his credit, rightly recognises that only "when the individuals are of perfectly uniform character will their average supply

or demand for any commodity represent that of an individual. But every community is usually composed of individuals differing widely in powers, wants, habits, and possessions. An average will therefore partly depend upon the comparative numbers belonging to each class”.

This concept of the person is the statistic found in census data; it is the concept of the person the demographer uses. As such, it can be of use to the anthropological economists because demographic statistics, be of a village, town, or nation, are extremely important aids to research. However, while this concept of the person is extremely important and necessary, it is insufficient. In societies everywhere we find a distinction behind high-status persons, such as husbands, fathers, masters, Brahmins, citizens, and employers, and low-status low status persons such as wives, daughters, slaves, Sweepers, refugees and employees whose personhood is often denied in ritual practices or state laws. A theory that abstracts from historically specific concepts of the person and non-person of this kind abstracts from all those facts about the human condition that anthropologists and others in the humanities find interesting.

The mainstream economist, by contrast, is simply not interested in the many specific problems of value and wealth that such a conception of personhood implies. They have a much more ambitious agenda, the big question of the universal human quest for happiness and wealth and of how to achieve it. They credit Adam Smith (1776) with setting this agenda in his *An Inquiry into the Nature and Causes of the Wealth of Nations* but fault the labour theory of value and exchange that informs his theory because this prevents him from solving the much-celebrated paradox of value he identified. The fact that “things that have the greatest value in use have frequently little or no value in exchange; and on the contrary, those which have the greatest value in exchange have frequently little or no value in use. Nothing is more useful than water: but it will purchase scarce anything; scarce anything can be had in exchange for it. A diamond, on the contrary, has scarce any value in use; but a very great quantity of other goods may frequently be had in exchange for it” (Smith 1776: I, IV, 84).

Jevons, Walras and Menger found their solution to this paradox in their marginal utility of value. By explaining the exchange-value of things in terms of a new concept of use-value (marginal utility) they quite literally changed the terms of debate about value and wealth. A new language of economics was ushered in (Milgate 1987). Wealth for the marginalists was redefined using the language of *goods*, not the language of *commodities* used by Smith (1771), Ricardo (1814) and Marx (1867). This revolution in economic thought was a counter-revolution from the point of view of the Marxists. The stage was set for a political debate of great consequences for the human condition in the 20th century. At stake were two opposed

conceptions of what it means to be a person, two opposed conceptions of wealth, and two opposed ways of valuing wealth. It was a debate carried out by scholars in the halls of the academy, by political activists on the streets opposing the status quo, and by others of more conservative bent in the boardrooms and halls of power. While most scholars are content to prosecute their arguments only in the academy, some like Keynes, Friedman, Sahlins and Graeber and others cross the Rubicon and become political activists (an expression that is usually reserved for those who oppose the status quo but the actions of conservatives as policy advisors is no less political.)

From the point of view of economics as an academic discipline the extraordinary complexity of the theoretical and empirical issues at stake is matched only by the simplicity of the terms of debate when it comes to a definition of wealth.

Menger, whose native tongue is German, speaks the new economic language of *goods*.

The entire sum of economic *goods* at an economizing individual's command we will... call his wealth. (Menger 1871: 109, emphasis added).

Marx, whose native tongue is also German, speaks the old economic language of *commodities*.

Wealth of those societies in which the capitalist mode of production prevails, presents itself as an immense accumulation of *commodities* (Marx 1867: I, 1, 1, emphasis added).

Wealth as *goods* versus wealth as *commodities*? We can get some insight into the anthropological issues at stake here by exploring Menger's point of view further.

Certain goods are intended by their owners to be exchanged for the goods of other economizing individuals. During their passage, sometimes through several hands, from the possession of the first into the possession of the last owner, we call them '*commodities*', but as soon as they have reached their economic destination (that is, as soon as they are in the hands of the ultimate consumer) they obviously cease to be commodities and become '*consumption goods*' in the narrow sense in which this term is opposed to the concept of '*commodity*' (Menger 1871: 240-241).

In other words, the consumption good is the thing the 19th century housewife desired as she wandered around the new department stores trying to decide what to buy with her limited resources. A gendered, histori-

cally and geographically situated problem of this kind – there were no department stores in places like PNG in those days – is one that could rightly claim the attention of an anthropological economist, but Menger and his mob don't pose the question in these terms. Their gender-neutral individual person is faced with a psychological problem of a universal kind, that of having to decide.

The determining factor in the value of a good, then, is neither the quantity of labor or other goods necessary for its production nor the quantity necessary for its reproduction, but rather the magnitude of importance of those satisfactions with respect to which we are conscious of being dependent on command of the good. *This principle of value determination is universally valid, and no exception to it can be found in human economy* (Menger 1871: 147, my emphasis).

Herein lies the crux of the issue, the source of an answer to the question of why neoliberal mainstream economics is immune to any critique from without, be it from the likes of anthropological economists like Sahlins and Graeber, or from neo-Ricardian economists like Sraffa whose speaks the language of commodities. This is because neoliberal mainstream economics has a universal theory of value based on an abstract conception of an individual person motivated by the human quest for wealth and happiness.

Use-value, an objective value grounded in the history of scientific developments and cultural geography of persons, becomes marginal utility, a subjective value of a universal individual located in Newtonian time and space. Mainstream economics is scientific in precisely this sense. Newton makes clear his assumptions about time, place and person in his classic work.

I do not define time, space, place, and motion, as being well known to all. Only I must observe, that the common people conceive those quantities under no other notions but from the relation they bear to sensible objects. And thence arise certain prejudices, for the removing of which it will be convenient to distinguish them into absolute and relative, true and apparent, mathematical and common.

Absolute, true and mathematical time, of itself, and from its own nature, flows equably without relation to anything external, and by another name is called duration: relative, apparent, and common time, is some sensible and external ... measure of duration by the means of motion, which is commonly used instead of true time; such as an hour, a day, a month, a year (Newton 1686: 1).

Sahlins's conception of the person is anthropological in the sense that it is based on the 'prejudices' of common people whose conception of other people and objects is relative rather than absolute, apparent rather than true, common rather than mathematical. It is that found on planet earth, not that used by physicists to understand the universe beyond.

Use-value – the relationship common people bear to sensible objects in a world where time, space and motion is relative, apparent and common – is an elementary economic category, a first principle of economic analysis. Mainstream economists, ever keen to imitate the intellectual methods of the hard sciences over that of the ethnographer or historian, have no analysis of this elementary category. The problem with mainstream economics is not that it is scientific. The problem is that it uses the wrong science for the wrong problem. They use Newtonian assumptions about time and space in their analysis of exchange-value when economic history and cultural geography is needed. The analysis of use-value, by contrast, requires an understanding of botany, biology, and metallurgy to grasp the significance of these objects for people in given times and places. Mainstream economists have no theory of use-value. They ‘solve’ the water/diamond paradox by changing the terms of debate: *use-value*, an objective elementary scientific fact of human history, becomes *marginal utility*, a subjective value assumed to be universal because the paradox is assumed to be universal. The fact is, as we shall see, that the water/diamond paradox is not universal, it is geographically specific to the wheat-growing temperate zone of greater Europe.

I come now to Sraffa who reduces Marx’s notion of ‘use value’ to an unscientific misconception of ‘use’ that has no correspondence in earthly reality.

3. SRAFFA: “ABSTRACT MONGERING THAT CAN HAVE NO CORRESPONDENCE IN REALITY?”

Sahlins’s analysis in SAE has much more in common with Sraffa’s PCMC than with mainstream economics. SAE and PCMC are commensurable in that they both adopt a ‘surplus approach’ to the theory of value, and both are concerned to develop general theories that have exceptions, rather than universal theories that admit of none. Sraffa’s analysis is highly abstract whereas Sahlins’s analysis is radically concrete, but this is not the key difference between their two approaches. Sraffa was opposed to “abstraction-mongering that can have no correspondence in reality” (1960: para 70) and, as such, like Sahlins, Sraffa is open to critiques grounded in political and economic history and cultural geography. What distinguishes Sraffa’s view of the world is that it is grounded in the deep history of wheat cultivation in Europe. It is also grounded in complete ignorance of the ethnographic reality of the socio-economic geography of the non-European world and, therefore, of the limits of the wheat-centric theory of elementary prices he proposes. Sahlins, by contrast, is fully conscious

of the geographic and historical limits of his analysis. His theory of elementary prices is deliberately grounded in the ethnographic facts of cases drawn from the non-European world. This emerges first in the language of their respective theories.

The following table gives a statistical analysis of keywords used in PCMC and SAE. All these words fall under the general heading of 'wealth' in the sense of 'article of consumption' or 'means of production'. Wheat, which has been a European staple food for millennia gets 40 hits in PCMC but none in SAE. It is Sraffa's favoured food term. Taro (*Colocasia esculenta*), which has been a staple food for people in the humid tropics and subtropics of Asia and the Pacific for millennia, is Sahlins's favoured term getting 30 hits, along with rice 13 hits, sweet potatoes 12 hits, millet 5 hits, and yams 4 hits, none of which rate a mention in Sraffa. The only common term is the ostrich-egg, a 'luxury' item in both texts (Sraffa 1960, para 5; Sahlins 1972: 9).

Statistical analysis of keywords used in PCMC and SAE

<i>Words</i>	<i>Number of hits in PCMC</i>	<i>Number of hits in SAE</i>
Ostrich-eggs	1	1
Wheat	40	0
Iron	34	0
Taro	0	30
Stone	0	17
Rice	0	13
Sweet potato	0	12
Millet	0	5
Yams	0	4

Given that rice, an aquatic plant, is the staple in monsoon Asia, that millet, a drought resistant grain, is the staple in the dry areas of Africa and western India, and that taro, sweet potatoes and yams are the staple foods of the Pacific Islanders, it is clear that Sahlins's approach is non-Eurocentric with a rootcrop-centric Pacific Islander bias, the region of his specialist ethnographic interest.

A wheat-centric approach is not a problem in and of itself, but it becomes one if the *use-value* of wheat relative to other basic staple like rice, yams, millets and the like are not taken into account. This is because a general theory of value, unlike a universal theory, must be comparative and define the scope and limits of analysis. In other words, it must be grounded in cultural geography. For example, the distribution of staple food across

the globe poses the question of why wheat is grown in the cool temperate zones of Europe, why rice in the wet humid zones of monsoon Asia, and why neither are grown in the islands of the Pacific. Questions like this, grounded as they are in ecological conditions, have profound social and cultural implications.

Only a few days of fieldwork talking to farmers in these different ecological regions is needed to supply the objective data need for an answer. Rice, an aquatic crop that draws in nutrients mainly from water, requires flooded paddy fields for the seed to germinate. Wheat, by contrast, would drown in such conditions. It is a winter crop that must be seeded in the moisture zone of furrowed land. Neither crop is found in the archaeological records of the Pacific, again for the obvious reason that the aseasonal, perhumid climate in many of the islands does not allow it. This is a fact that development economists, trained in the wheat-centric European tradition of mainstream economics, are yet to realise as they try, for example, to get Pacific Islanders to grow rice. Taro, yams and sweet potatoes thrive here but not rice. Millet, for its part, is a cereal crop found mainly in Africa often in a harmonious relationship with cattle raising but, with the single exception of Job's tears (*Coix lacryma-jobi*), a 'luxury' product used to make beads, not a single grain of millet can be found in the Pacific. The comparative advantages and disadvantages of these staple foods – 'basics' in Sraffa's terminology – has had profound social, cultural and economic consequences for the human condition.

Take, for example, the distinction between iron-age wheat economies and iron-age rice economies. Wheat, by its very nature, is land extensive and machine intensive compared to rice which is water and labour intensive. Wheat, a harsh coarse grain that can cut one's hands when handled, needs to be milled by machines and turned into flour before it can be baked and eaten as bread. It has a very low 'own rate of profit' compared to rice. This notion, a very important one in Sraffa and rightly so, is the ratio of volume or weight of harvested grain to seed sown. Agronomists call it the 'yield ratio' and note that it is a very important concept in wheat production but not in rice production. As Tanaka (2002: 1) has noted, the yield ratio of wheat was between 2 to 7 in European countries up to 1800. During the industrial revolution in UK, it jumped 50% from around 7:1 to 11:1 over the period 1750-1800. Tanaka adds that there is no such concept in Asia where the yield ratio of rice has been more than 100:1 since ancient times. Rice is the most fecund of all domesticated grasses. Labour intensive transplantation methods bring sharp rises in yields. The 1:10 differences in yield ratios in Europe compared to Asia has enabled monsoon Asia to have carrying capacities in terms of population ten times that of Europe. Labour intensive transplantation methods bring sharp rises in yields; the crop

can be threshed by hand and boiled to produce a meal without the use of machine-intensive methods of production and consumption.

Rice economies and wheat economies constitute radically different 'cultural orders' as Sahlins might say. The deep history of wheat farming in Europe and rice farming in monsoon Asia has spawned a political economy and theology based on Mother Earth in Europe and Mother Water in Asia. Evidence for this is found in a Christian god whose ritual consumption in the symbolic form of wheat occurs every Sunday. In this wheat-centric world political economists from Petty through Marx to Sraffa have sought to develop a theory of wealth based on Father Labour and Mother Earth. As Marx put it, "labour is not the only source of material wealth, of use values produced by labour. As William Petty puts it, labour is its father and the earth its mother" (Marx 1867: *Capital*, I, 1, 2).

Monsoon Asia divides India, roughly speaking, into a wet-rice growing east and a dry western zone where wheat and millet predominate. Lakshmi is the supreme goddess of wealth in India and is worshiped in the symbolic form of rice in the east. In east-central India where I work, Lakshmi's mother is said to be Mengin, literally Monsoon Cloud Goddess, i.e., Mother Water. Mother Earth is also a very important goddess in this part of the world but an anthropologically informed political economy in this rice-centric world requires a different formulation to the water/diamond paradox. Some European political economists such as Wittfogel (1957) have realised this fact and have developed a theory of the 'hydraulic economy' to capture the special features of the Chinese economy. However, as ancient Chinese historian and ethnographer Francesca Bray (1984: 108-109) has noted, he hasn't realised that monsoon Asia divides China north/south instead of east/west like India. Northern China is a wheat and millet growing region, one that the Chinese state has developed over the centuries with canal irrigation works. Wittfogel's book reveals no understanding of the role of Mother Water in China's southern rice economy. Rice cultures and wheat cultures are similar in that the annual cycle of production, exchange, distribution and consumption that Smith, Ricardo and others assume is plausible. In rootcrop cultures, by contrast, the aseasability of many of the crops (but not all such as yams) poses new problems for a general theory based on an annual cycle (the assumption Sraffa makes).

So much for the use-value of wheat relative to rice. I now come to Sraffa's wheat-centric theory of the use-value of iron, the fatal flaw in his theory of exchange-value. Sraffa, like Sahlins, employs a logical historical method. Herein lies another stark contrast between SAE and PCMC. Sraffa begins with a 'simple' iron-age economy, consisting of blacksmiths and wheat farmers, and develops his analysis by making it more 'complex' by introducing workers, capitalists, landlords, whose simple tools are replaced

by complicated machines. The commodities produced, too, become ever more numerous: from two commodities (wheat and iron) to three (wheat, iron and pigs), and from three to 'n' commodities. Sahlins, by contrast, begins with ethnographic data on actual stone-age economies, the 'original affluent society,' and shows that these primordial economies were by no means 'simple'. He then generalises his 'original surplus' argument with the analysis of data from slash-and-burn farming communities and then on to the analysis of settled farming communities covering issues of production, consumption, distribution, and exchange as he goes, ending up with his final chapter on the indeterminacy of exchange-rates.

At every step in this analysis Sahlins is careful to clarify the problematic assumptions that inform his analysis and to expose himself to criticism and development in the light of new empirical evidence. He notes, for example, that he "takes the liberty of reading modern hunters historically, as an evolutionary base line". 'This liberty,' he adds (1972: 38), "should not be lightly granted. Are marginal hunters such as the Bushmen of the Kalahari any more representative of the paleolithic condition than the Indians of California or the Northwest Coast? Perhaps not". He also notes that his "intellectual weapons are the crudest choppers, capable only of indelicate blows at the objective, and likely soon to crumble against refractory empirical materials" (Sahlins 1972: 277).

Sahlins's analysis stops short of the next big step in the deep history of *Homo sapiens*: the transition from stone to steel. Sraffa's starting point, by contrast, is the iron age, but one based on complete ignorance of the ethnographic and historical reality of the implications of this invention for the human condition. Sraffa's forte is intellectual history, not the history and ethnography of wheat and iron. His primary concern is the logical refinement of existing theories rather than critical development in the light of new historical and ethnographic data. Sraffa's theory of value, as the title of his book suggests, is primarily concerned with the analysis of the reproduction of commodities. His starting point is the reproduction schemas in vol. 2 of Marx's *Capital*. Whereas Marx presents his illustrative examples in exchange-value form, Sraffa re-presents these in use-value form with the aim of showing how these use-values are transformed into exchange-values, something that Marx failed to do. Marx (1885) begins with the following numeral example of the 'simple reproduction of commodities'.

We shall base our study of simple reproduction on the following scheme, in which *c* stands for constant capital, *v* for variable capital, and *s* for surplus-value, assuming the rate of surplus-value *s/v* to be 100 per cent. The figures may indicate millions of marks, francs, or pounds sterling (Marx 1885: 401).

- I. $4,000_c + 1,000_v + 1,000_s = 6,000$ means of production
- II. $2,000_c + 500_v + 500_s = 3,000$ articles of consumption.

We begin with the great exchange between the two classes. ($1,000_v + 1,000_s$) I – these values consisting, in the hands of their producers, of means of production in their natural form, are exchanged for $2,000_{IIc}$ for values consisting of articles of consumption in their bodily form. The capitalist class of II thereby reconverts its constant capital of 2,000 from the form of articles of consumption into that of means of production of articles of consumption, into a form in which it can once more function as a factor of the labour-process and for purposes of self-expansion of value as constant capital-value. On the other hand, the equivalent of the labour-power of I ($1,000_v$) and the surplus-value of the capitalists of I ($1,000_s$) are realised thereby in articles of consumption; both are converted from their bodily form of means of production into a bodily form in which they can be consumed as revenue (Marx 1885: 402).

$$I(v+s) = IIc$$

£ 2000 of means of production = £ 2000 articles of consumption.

Sraffa begins by supposing that iron is the only means of production and wheat the only article of consumption. This enables him to re-present Marx's simple reproduction schema as follows.

- I. 8 t. iron + 120 qr. wheat → 20 t. iron (means of production)
- II. 12 t. iron + 280 qr. wheat → 400 qr. wheat (articles of consumption)

In Department I, blacksmiths produce 20 tons of iron using 8 tons of iron as means of production and 120 quarters of wheat as their means of subsistence. In Department II, farmers produce 400 quarters of wheat using 280 quarters of wheat as input (e.g., 40 quarters as seed, and 240 as means of subsistence) and 12 tons of iron in the form of tools as the other input. Sraffa then asks what exchange-rate of wheat for iron will ensure the self-replacement of the economy and finds that the rate is 10 quarters of wheat for 1 ton of iron.

This example is clearly a use-value form of the 'great exchange' between industry and agriculture.

$$I(v+s) = IIc$$

12 t. iron (means of production) = 120 qr. wheat (articles of consumption)
 1 t. iron = 10 qr. wheat

At first glance this made-up example seems 'obvious' and in accord with the ethnographic record presented in Sahlins's Chapter 6: blacksmiths have a surplus of 12 tons of iron (20 minus 8); farmers have a surplus of 120 qr. of wheat (400 minus 280); if they exchange their surpluses the economy can reproduce itself next year. This economy is in a self-replacing state

because it has no 'national surplus,' the sign of 'simple reproduction' in Marx's terminology.

Sraffa uses this elementary case to advance his general thesis, that prices "spring from the methods of production" (1960: para 1) and not from the marginal utility of consumption. To prove the generality of his argument, Sraffa then quickly hurries on to a three-industry case, and then the general case of the simple reproduction of 'n' commodities. The simultaneous determination of prices is now much more complicated, being first triangular then n-angular. He supposes the 'invisible hand' in this market operates like a set of simultaneous equations. This god of the market counts equations and unknowns, satisfies itself that equations and unknowns are equal, and cranks out the exchange-values necessary for continued reproduction, and declares that these are the 'natural prices' around which market prices must oscillate. This fantastic tale of the transmutation of use-values into *determinate* exchange-values could not be further removed from Sahlins's ethnographically grounded theory of the diplomatic creation of *indeterminate* prices, but economists are readily persuaded by the rigours of a mathematical argument, rarely if ever by appeals to the ethnographic evidence.

Sraffa then moves on to consider the case of expanded reproduction. He does this by supposing that the wheat farmer in the case above produces 575 qr. of wheat, 175 more than needed for self-replacement of the society as a whole. The society of the blacksmith and farmer now becomes one of capitalists and workers and the theory of price determination becomes ever more complicated (but always with visible hand of the Market God who counts equations and unknowns and demands that they be in balance). The result is one of the most logically pure and difficult books ever written in the history of economic thought. All the critical attention has focussed on the undoubted brilliance of his deductive argument, but none on the fact that his theory of use-value is based on an elementary error.

Sraffa assumes that iron is a homogenous reproducible commodity like wheat with its own yield ratio. That is, just as 40 quarters of wheat used as seed can yield 400 quarters of wheat as output so 8 tons of iron used as 'seed' can yield 20 tons of iron as output. In other words, a yield ratio of $40/400 = 1/10$ for wheat compared with a yield ratio of $8/20 = 1/2.5$ for iron.

I am sorry Mr Sraffa, but iron is not a homogenous reproducible commodity like wheat. You have a wheat-centric conception of iron production.¹ Wheat belongs to the plant kingdom. Iron belongs to the mineral

¹ I confess that this fact only occurred to me as I was writing this paper. I found Sraffa's

kingdom. The natural laws of reproduction in the former do not apply in the latter. Iron making is a one-way process of environmentally destructive and metallurgically reductive production as the following account shows.

Iron making, is an ancient craft that began some 3000 years ago. The essence of iron making, however, has remained the same since that time. The ore, either mined or collected from sand, was melted and the oxygen in it burnt out. For millennia the fuel that performed this dual operation was charcoal. Charcoal, which is about 90 per cent carbon, is produced by heating wood in the absence of oxygen whereby water and other volatile compounds are removed. Charcoal burns at elevated temperatures of about 1100 degrees Celsius, high enough to reduce the oxides in the ore. Such temperatures cannot be achieved by burning dry wood, thereby making charcoal an essential raw material in the smelting process (Sivramkrishna 2009: 165).

The great transformation in England, Sivramkrishna continues, happened in the early eighteenth century when “Abraham Darby, a British ironmaster, successfully substituted charcoal with coke produced from mined coal as fuel for iron smelting. Coal, mined from a surface of a few square metres, replaced the need for acres of forests”.

The transformation in India did not come until the 1980s. Traditional blacksmiths were still using charcoal to smelt iron ore when I first began fieldwork in central India in 1981. Elwin’s (1942: 215) ethnographic account of these traditional artisans reveals that the Agaria (literally ‘fire workers’) needed about 5 tons of wood to produce 1 ton of charcoal. To produce one ton of smelted iron they needed 4.5 tons of iron ore and 16 tons of charcoal. Writing this in Sraffian use-value production formula we get

5 tons of wood → 1 ton of charcoal, and
 16 tons of charcoal + 4.5 tons of iron ore → 1 ton of smelted iron

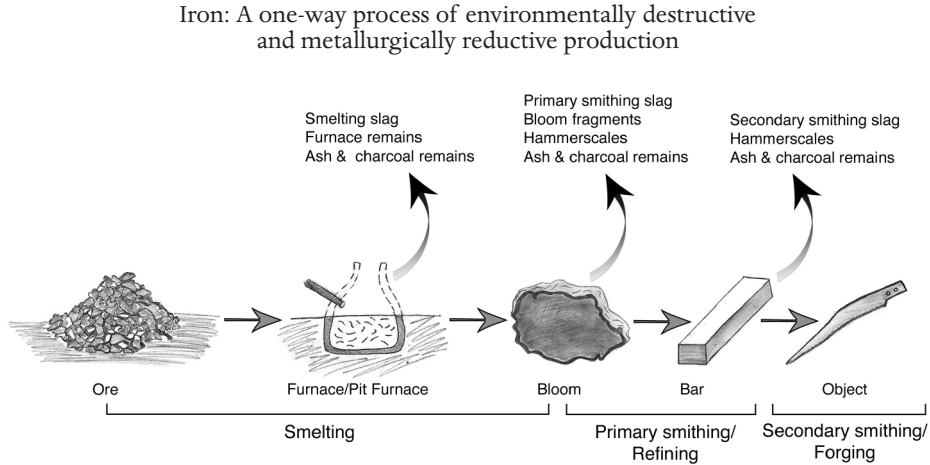
In other words,

80 tons of wood + 4.5 tons of iron ore → 1 ton of smelted iron

To produce steel tools from this smelted iron further melting and forging operations are required. This creates the need for even greater quantities of timber. This destruction of the forests is just one of the

reproductive approach – suitably expanded to include the ‘production of people by means of people’ (i.e., kinship) – very helpful in my analysis of the ‘stone age’ economy of Papua New Guinea. I uncritically reproduced his error in the first edition of my *Gifts and Commodities* (1982: 34), and again in 2015 when the second edition came out (2015: 30).

many negative ‘joint products’ of iron production as the following diagram shows.



A defender of Sraffa might argue that this is merely an unfortunate illustrative example, one that can be overcome by using the generic term like ‘metal’ instead of a specific term ‘iron’. However, even if we concede this linguistic sleight of hand, the fact remains that the economic transformation of the mineral kingdom is always reductive and destructive, never reproductive and expansive. Iron as metal has a negative yield ratio of 4.5 to 1. Thus, to produce 20 tons of metal (in the form of steel) as output one needs at least 90 tons of metal (in the form of iron ore) as input’. We can reformulate the production process as follows

- I. 90 t. metal + 120 qr. wheat → 20 t. metal (the means of production)
- II. 12 t. metal + 280 qr. wheat → 400 qr. wheat (the articles of consumption)

Department I now has as deficit of 70 tons of metal (20 minus 90 = minus 70), but as Sraffa says, deficits of this kind “do not represent viable economic systems and are not considered” (1960: para 3, fn 1). However, it is precisely because the production of iron is a non-viable, destructive, non-reproducible commodity that economists must consider it. Sraffa does not consider this because it means that his quest for a determinate theory of prices fails. Sraffa is only able to transmute use-values into exchange-

values by assuming, contrary to fact, that iron is a homogenous reproducible commodity like wheat. Sraffa's conceptual framework makes good anthropological sense in a stone-age world where plants and animals are used to reproduce plants and animals, but no sense in an iron age world. Iron age economics is destroying our planet and has been doing so for over 1000 years. With the substitution of coke for charcoal in the late 18th century we have entered an era of expanded destruction. Economic theory – “the most insular, the most self-enclosing of disciplines” – has yet to come to terms with this elementary fact.

4. USE VALUE: “SEEMS TO HAVE REMAINED ENTIRELY OUTSIDE THE SPHERE OF TRADITIONAL POLITICAL ECONOMY”

The anthropological economics of Sahlins's *Stone Age Economics* is elementary in the sense that it is grounded ethnographically, historically, and scientifically on three forms of value of great generality:

1. The use-value of *goods* and *bads*.
2. The exchange value of *commodities*.
3. The reciprocal value of *gifts*.

Classical and neoclassical economists have been obsessively concerned with the development of a determinate theory of exchange value. They both have neglected the analysis of use-value and exhibit no awareness of the existence of gifts, let alone of the implications that reciprocity has for a theory of exchange-value.

The problem of use-value is an ancient one. It was at the heart of the theories of Smith, Ricardo, and Marx, but the analysis of use-value has been downhill from there. As Schefold (1999: 109) has noted, the problem of use-value seems to have remained outside the consciousness of economists. At the very minimum use-value requires a basic understanding of those sciences (biology, botany, and minerals) dealing with the three great kingdoms of nature as well as the cultural geography of the way people in different times and places have valued *goods* and *bads* (e.g., dog meat in Europe, cows for Hindus, etc.). Fieldwork has raised the awareness of anthropologists to these issues. Only a short visit to a farm and a steel mill is necessary to realise that iron is not a reproducible commodity like wheat, but economists like Sraffa, captured as they are by rhetorical prestige that the use of mathematical space-time abstractions of Newtonian physics brings them, are blithely unaware of these elementary facts. The neoclassical economists, for their part, reduce the objective properties of use-values to subjective marginal utilities assumed to be of universal validity. In both cases, preconceptions and misconceptions based on ignorance substitute

for the development of arguments based on empirical study. Scientific theories of exchange-value determination, grounded in Newtonian assumptions about space and time, are the logical consequence. These theories are quite literally out of this world, the one that Sahlins' strives to understand with his grounded ethnographic approach to deep history and his firsthand experiences of the use-values of the different rootcrops that are the staple food of people in the Pacific.

Sahlins also grounds this theory of price indetermination in the context of a theory of gifts, kinship, and reciprocity. Gift exchange is as ancient as commodity exchange but, like the analysis of use-value, this has remained outside the sphere of classical and neoclassical economics.

This raises the question: what is the use-value of the theories of exchange-value that are based on misconceptions about use-value, have no conception of gifts and reciprocity, and use Newtonian conceptions of time and place that abstract from political and economic history and cultural geography?

The theories of Menger, Jevons, Walrus and Sraffa are anthropological non-sense in the literal non-pejorative sense of the term. We need an economic analysis that is concerned with the *concretions* of the common people in their sensible world. Only a truly anthropological economics can do this. Sahlins, as Graeber notes, has set us on this road. It is the first step. As such it is Sahlins's book, rather than Sraffa's, that merits the subtitle 'Prelude to a critique of economic theory'.

REFERENCES

- BENTHAM J. 1780, *An Introduction to the Principles of Morals and Legislation*. Available at: https://en.wikisource.org/wiki/An_Introduction_to_the_Principles_of_Morals_and_Legislation (accessed March 16, 2021).
- BRAY F. 1984, "Agriculture", in J. Needham (ed.), *Science and Civilisation in China*, vol. 6, pt. 2, Cambridge: Cambridge University Press.
- ELIYAHU-BEHAR A., YAHALOM-MACK N., GADOT Y. and FINKELSTEIN I. 2013, "Iron Smelting and Smithing in Major Urban Centers in Israel during the Iron Age", *Journal of Archaeological Science*, 40 (12): 4319-4330. doi:<https://doi.org/10.1016/j.jas.2013.06.009>.
- ELWIN V. 1942, *The Agaria*, Calcutta: Humphrey Milford.
- FERRY J.W. 1960, *A History of the Department Store*, London: Macmillan.
- GRAEBER D. 2017, *Foreword to the Routledge Classics Edition of Stone Age Economics*, London: Routledge.
- GRAEBER D. 2011, *Debt: The First 5000 Years*, New York: Melville House Publishing.
- GRAEBER D. 2001, *Toward an Anthropological Theory of Value: The False Coin of Our Dreams*, New York: Palgrave.
- GREGORY C.A. 2015, *Gifts and Commodities* (second ed.), Chicago: Hau Books.

- GREGORY C.A. 1982, *Gifts and Commodities*, London: Academic Press.
- HAYEK F.A. 2007, *Introduction to Principles of Economics by Carl Menger*, (J. Dingwall and B.F. Hoeselitz, trans.), Auburn: Ludwig von Mises Institute.
- JEVONS W.S. 1970 (1871), *Theory of Political Economy*, Harmondsworth: Penguin.
- MARX K. 1971 (1885), *Capital*, vol. 2, *A Critique of Political Economy*, Moscow: Progress.
- MARX K. 1887 (1867), *Capital*, vol. 1, *A Critical Analysis of Capitalist Production*, Moscow: Progress.
- MENGER C. 2007 (1871), *Principles of Economics, with Foreword by Peter G. Klein and Introduction by F.A. Hayek*, (J. Dingwall and B.F. Hoeselitz, trans.), Auburn: Ludwig von Mises Institute.
- MILGATE M. 1987, "Goods and Commodities", in J. Eatwell, M. Milgate and P. Newman (eds.), *The New Palgrave: A Dictionary of Economics*, Basingstoke: Palgrave Macmillan: 546-549.
- NEWTON I. 1686, *Mathematical Principles of Natural Philosophy and His System of the World*, (F. Cajori, trans.), Berkeley: University of California Press.
- RICARDO D. 1975 (1817), *On the Principles of Political Economy and Taxation*, vol. 1, Cambridge: Cambridge University Press.
- SAHLINS M. 2017, *Stone Age Economics*, London: Routledge Classics Edition.
- SAHLINS M. 1972, *Stone Age Economics*, Chicago: Aldine.
- SHEFOLD B. 1999, "Use Value and the 'Commercial Knowledge of Commodities': Reflections on Aristotle, Savary and the Classics", in G. Mongiovi and F. Petri (eds.), *Value, Distribution and Capital Essays in Honour of Pierangelo Garegnani*, London: Routledge.
- SIVRAMKRISHNA S. 2009, "Production Cycles and Decline in Traditional Iron Smelting in the Maidan, Southern India, c. 1750-1950: An Environmental History Perspective", *Environment and History*, 15: 163-197.
- SMITH A. 1970 (1776), *An Inquiry into the Nature and Causes of the Wealth of Nations*, London: Everyman's Library.
- SRAFFA P. 1960, *Production of Commodities by Means of Commodities: Prelude to a Critique of Economic Theory*, Cambridge: Cambridge University Press.
- TANAKA K. 2002, "Crop-Raising Techniques in Asian Rice Culture: Resemblances to Root and Tuber Crop Cultivation", in S. Yoshida and P.J. Matthews (eds.), *Vegeticulture in Eastern Asia and Oceania*, Osaka: National Museum of Ethnology.
- WALRAS L. 2003 (1874), *Elements of Pure Economics, or, the Theory of Social Wealth*, (W. Jaffe, trans.), London: Routledge.
- WITTFOGEL K.A. 1957, *Oriental Despotism: A Comparative Study of Total Power*, New Haven: Yale University Press.