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Book review article

The Age of Fragmentation by Alessandro Roncaglia: A Review Article

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Abstract:

This article gives a thorough critical review of Alessandro Roncaglia's latest book The Age of Fragmentation: A History of Contemporary Economic Thought*. The volume covers the antecedents of modern economics – the ideas of Wicksell, Keynes and Schumpeter in particular – followed by the post-war 2 'revolutions' in microeconomics, macroeconomics and applied economics, including econometrics. Heterodox views of post-Keynesian economics; Marxism; institutional and evolutionary economics; post-utilitarian theorists; ethics, and welfare are also considered.*

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1. Introduction

Alessandro Roncaglia is undoubtedly one of the most accomplished historians of economic thought of his generation. He first came to prominence with his masterly analysis of the work of his intellectual hero, Piero Sraffa (Roncaglia, 1975), followed by his acclaimed study of the work of William Petty (Roncaglia, 1977). His crowning achievement, however, was his magnificent *Wealth of Ideas* (Roncaglia, 2005) which took the reader from the pre-history of political economy through the twentieth century to the 'age of fragmentation', the title of the present book, rivalling Schumpeter's (1954) *History of Economic Analysis* in coverage and erudition, then followed by its simplified and shortened version *A Brief History of Economic Thought* (Roncaglia, 2017).[1] Now he presents us with his latest offering covering the period from the mid-seventeenth century to the present day, but with the focus on the last seventy years in which, Roncaglia claims, economics as a distinct, unified, discipline has become

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[1] Chapter 17 of this book is called *The Age of Digregation*, which must be a mistake!

fragmented into different branches, or specialities, and where fundamental disagreements over methodology and policy prescription abound. There are a multiplicity of theories; a variety of views of the world, and many different schools of thought, often intersecting. The day of the generalist is over. If an economist is asked today "'what do you do?", it is no longer sufficient to say "I am an economist"; specificity is required. The economist is expected to say "I'm a monetary economist" or "I'm a growth economist", or whatever the specialisation, otherwise he or she is looked at with suspicion. Roncaglia regards this excessive specialisation or fragmentation of economics as dangerous, and by writing on the history of economic thought he wants to prevent what Schumpeter (1954) once referred to as "a sense of lacking direction and meaning from spreading" (p. 4). Given this fragmentation, understanding connections between different areas of research become critically important when economics is used as a guide to action or public policy. And, given the different approaches to economic theory, Roncaglia follows Schumpeter in emphasising the point that theoretical models are grounded on a "web of concepts" which may differ radically from one approach to another. In building formal models, therefore, and testing their empirical validity, the construction of a "web of concepts" – or a web of simplifying assumptions – is by far the most crucial first step.

The book is divided into five parts. Part 1 gives an overview of the antecedents of modern economics: classical theory; the marginalist revolution, and the ideas of, in particular, Wicksell, Keynes and Schumpeter that held centre stage after World War 2. Part 2 is devoted to Hayek and Sraffa, and their respective approaches to the functioning of capitalism. Part 3 deals with mainstream microeconomics, macroeconomics and applied economics including econometrics. Part 4 covers debates over rational behaviour and the role of finance in economic crises, and exposes the contrast between different research approaches. Part 5 examines heterodox views of post-Keynesian economics; Marxism; institutional and evolutionary economics; post-utilitarian and capability theorists, and ethics and welfare.

Focussing on the post-World War 2 period, Roncaglia charts how the centre of economic gravity shifted from Europe to the United States, and how the gradual mathematisation of economics through the major US Universities and research organisations, such as the Cowles Foundation and the Rand Corporation, lead to the neoclassical-Keynesian synthesis; the triumph of neo-liberalism (at least for a while), and the rise of the Austrian School of Economics. Hand in hand has been the rise of econometrics which has led to what Roncaglia calls "the construction of an a-theoretical economics based solely on statistical inference" (p. 230). Also noted is the study of the role of institutions in the understanding of economic behaviour, and the emergence of development economics as a sub-discipline of economic inquiry. The great English statesman, writer and historian, Winston Churchill, once remarked that chronology is the key to easy narrative. Roncaglia broadly takes this approach and I shall follow.

2. The Classical and marginal theory of value

The heading of chapter 2 is *Foundations: Classicals and Marginalists*. The main classical economists are William Petty; Adam Smith; David Ricardo; John Stuart Mill, and Karl Marx. The leading marginalists are Carl Menger; Stanley Jevons, and Leon Walras. Roncaglia is in his element discussing classical theory. The central concern of all classical theory was the search for a theory of value, and the need to distinguish between natural prices and market prices.

Natural prices in classical theory are those that guarantee the continuous reproduction of the economic system by covering production costs and generating a rate of return on capital sufficient to continue producing. The major prime cost is labour – giving rise to the labour theory of value – but, as Roncaglia recognises, the theory is not rigorous because it violates the condition of a uniform rate of profit across sectors with free competition. Ricardo was aware of this problem when he described the labour theory of value as "approximate and provisional". Within the classical framework, nearly one hundred years later, it was left to Sraffa (1960) to provide the solution in which the relative prices of goods and the distribution of income are determined simultaneously.

Central to classical theory are the notions of surplus; the reinvestment of profits; economic growth based on the division of labour, and a circular flow of income based on Say's Law of markets that supply creates its own demand – that saving is spending. As Keynes eloquently put it in *The General Theory* (Keynes, 1936) "Ricardo conquered England as completely as the Holy Inquisition conquered Spain" (p. 32). Marx (1867-1894) embraced Ricardo's analytical structure of the division of labour, surplus, capital accumulation, plus the labour theory of value which he extended into a theory of the exploitation of the working class. But ultimately the rate of profit falls as the reserve army of unemployed dries up and the organic composition of capital rises. Capitalism collapses through its own "inner contradictions" as workers resist cuts in money wages leading to violent revolution.

The early marginalists, including Menger, Jevons and Walras dismissed the labour theory of value to explain relative prices in favour of supply and demand analysis, based on costs on the supply side and utility on the demand side, with emphasis on the need for equilibrium in the market. Walras (1874) attempted to provide a set of equations determining a general equilibrium of the prices and quantities of all goods exchanged in the market, but the analysis is static and ignores the existence of money; or rather it treats money like any other good. But, as Keynes pointed out in his *General Theory*, money is not like any other good. It has "zero elasticity of production" and "zero elasticity of substitution", so that as economic agents switch from buying goods to holding money there is a fall in income and employment because money does not grow on trees, and as the prices of goods fall, agents still prefer to hold money. The existence of money poses serious problems for general equilibrium theory.

Alfred Marshall, who dominated microeconomic thinking and theory from the end of the nineteenth century until the 1930s, was a marginalist of sorts who embraced supply and demand analysis for the determination of prices, but made the important distinction on the demand side between the short and long period, and on the supply side between decreasing returns, constant returns and increasing returns activities. Supply and demand are likened unto two blades of a pair of scissors, with demand dominating price determination in the very short (market) period, but with cost and supply determining prices in the long period.

3. Pre-World War 2 developments

Chapters 3, 4, and 5 introduce the reader to some of the great economists that influenced economic thinking in the late nineteenth and early twentieth centuries who Roncaglia refers to as the immediate precursors of the post-1950 fragmentation of economics, including Knut Wicksell, Thorsten Veblen, Max Weber, Joseph Schumpeter and John Maynard Keynes (all in chapter 3); Friedrich von Hayek (chapter 4), and Piero Sraffa (chapter 5). I would not have

included Veblen and Weber in the list of great precursors of the later disarray in economics – they were peripheral – but I would have included Joan Robinson, who was outspoken and controversial on several important issues until the end of her life, not the least on the imperfect competition revolution in microeconomics in the 1930s, and on capital theory in the 1950s.

But Wicksell is important. First, he developed the marginalist theory of income distribution based on the marginal productivity of the factors of production (Wicksell, 1893). And secondly, in later work (Wicksell, 1898), he introduced into the economic literature the important distinction between the money rate of interest and the natural rate of interest which forms the basis of his trade cycle theory, which later Hayek (1931) would adopt. When the money rate of interest is below the natural rate of interest, determined by the marginal product of capital, investment expands, capital deepening takes place and there is expansion, but as the money rate of interest rises above the natural rate (to control the boom), capital accumulation is no longer justified and a slump ensues. Movements in economic activity become cumulative upwards and downwards.

Schumpeter and Keynes are equally important figures, if not more so, in these "years of high theory" (as Shackle, 1967, describes them) before the second World War. Interestingly, both were born in the same year, 1883, but their lives, economics and influence were very different. It is well-known that Schumpeter was intensely jealous of Keynes's fame because he wanted to be regarded as the most famous economist in the world, but Keynes assumed that mantle.[2] Nonetheless, Schumpeter was still one of the greatest economists of the twentieth century, and his ideas and work on economic development (Schumpeter, 1912, 1934), and the functioning of capitalism (Schumpeter, 1942) still resonate and invite controversy today. Two actors in his work are given prominence: the entrepreneur and bankers. It is the entrepreneur that drives investment and innovation, and innovation is the driving force behind competition. As in Keynes's *General Theory*, investment relies on "animal spirits"; on people willing to take risks in the face of uncertainty, but if animal spirits are dimmed "enterprise will fade and die" (Keynes, 1936). Investment also needs credit, and this requires a banking system willing to finance the needs of trade. This is the primary function of credit creation. But like Marx before him, Schumpeter predicts the demise of capitalism not by revolution but through evolution related to its own success.

Turning now to Roncaglia's treatment of Keynes: in my view it is far too narrow, focussing only on probability and uncertainty, and on finance and development, not on the revolutionary aspects of Keynes's *General Theory* which have been one of the major sources of controversies and the fragmentation of economics in the latter half of the twentieth century. Today, there is still no unified view on how macro-economies function. Roncaglia is certainly right, however, to emphasise one of the major contributions of Keynes's theory which is the presence of fundamental uncertainty. No-one knows the future, so decisions have to be made in ignorance most of the time. This is what Kay and King (2020) in their erudite and entertaining book call "radical uncertainty". They criticise, as Keynes would have done, the increasing tendency in economics to treat radical uncertainty in probabilistic terms, but it cannot be done, and can lead to catastrophic mistakes; as was witnessed during the financial crash of 2007/2008.[3]

[2] The story is recorded that Schumpeter once said that he had three ambitions in life: first to be the greatest lover in Vienna; second, to be the greatest horse rider in Europe, and third to be the greatest economist in the world. Before he died, he said he had achieved two of these ambitions, but didn't say which two!

[3] John Kenneth Galbraith hit the nail on the head with his pithy quip that there are two types of forecasters: those who don't know, and those who don't know they don't know!

In this chapter, Roncaglia should have outlined in more detail Keynes's departure from classical employment theory and the revolutionary concepts he introduced to kill classical theory (it takes a theory to kill a theory!). There are three key innovations: first, making labour supply a function of the money wage and not the real wage as in classical theory; second, the introduction of the consumption function and the concept of the multiplier whereby income changes bring savings and investment back into equilibrium after a disturbance, not the rate of interest, and third, identifying an asset demand for money (liquidity preference) with the rate of interest determined in the money market, not in the goods market as in classical theory. These three innovations were enough to demonstrate that unemployment can be involuntary over long periods of time, and has nothing to do with labour bargaining for a higher real wage than its marginal product justifies. But even today, economists who call themselves Keynesian or neo-Keynesian, still maintain that the source of generalised unemployment is rigid money wages and prices which Keynes himself in chapter 19 of *The General Theory* flatly denies.

Friedrich von Hayek was a strong adversary of Keynes, and Keynesian economics, and his ideas became another source of the fragmentation of economic thinking after both World War 1 and 2. He was brought to the London School of Economics (LSE) from Austria by the young Lionel Robbins in 1931 as a counterweight to the growing influence of Cambridge/Keynesian economics even though Keynes's *magnum opus* had not yet been published. He gave six lectures at the LSE and in Cambridge expounding his theory of the trade cycle in terms of the under- and over-investment in capital, but much of what he said throughout the 1930s was contradictory and plain wrong. In Cambridge, the lecture audience was stunned, but Richard Kahn plucked up courage and asked the question "is it your view [Professor Hayek] that if I went out tomorrow and bought a new overcoat, that would cause unemployment?" to which Hayek replied "yes, but it would take a long mathematical argument to explain why" (Kahn, 1984, p. 181). Hayek denied that under-consumption was ever a cause of unemployment. The six lectures were published as a book, *Prices and Production* (Hayek, 1931). Keynes's reaction in a review of the book (Keynes, 1931) was "it is an extraordinary example of how, starting with a mistake, a remorseless logician can end up in bedlam" (p. 391). In 1939, Hayek published *Profits, Interest and Investment* which took a radically different stance to that of *Prices and Production* and Kaldor (1942) wrote a long critical review exposing its inconsistencies. He accused Hayek of wanting to demonstrate at all costs (including *volte-faces* if necessary) that the scarcity of capital is the prime cause of economic crises and unemployment. Kaldor sent Keynes an offprint of his critique of Hayek, to which Keynes replied "your attack on poor Hayek is not merely using a sledgehammer to crack a nut, but on a nut which is already decorticated […] yours is a brilliant theory, but too much so perhaps for this subject" (see Thirlwall, 1987, p. 47). Kaldor defended his attack on Hayek by reminding Keynes that Hayek had spent the whole of the summer term in Cambridge discussing his latest paper on the 'Ricardo effect', creating an unwholesome muddle in the minds of the young. Hayek never answered Kaldor's critique of his trade cycle theory and abandoned the topic in the 1940s, turning his attention to extolling the virtues of free market capitalism to achieve an equilibrium at full employment. In his view, the free market is by far the best mechanism for coordinating the decisions of individual agents that will lead to the full utilisation of resources. He became strongly opposed to attempts to impose coordination centrally from above because he believed that information and knowledge is more readily available in free markets than to any planning agency; the market is the best diffuser of knowledge. These ideas became the central thesis of one of Hayek's most celebrated books *The Road to Serfdom* (Hayek, 1944). It was a short step from

the espousal of economic liberalism (*laissez-faire*) to political liberalism (individual freedom). The historian E.H. Carr once wrote that in order to understand history, it is necessary to understand the person writing it. And so it is with economics; Hayek is a prime example. There is no such thing as value-free social science. Roncaglia makes the same point in the last chapter of his book when he says "the results of economic research are not neutral with respect to the economic interests of class and social strata" (p. 334). Roncaglia sums up Hayek's faith in the stability of an economy as dependent on three elements: first, the marginalist theory of value and wage flexibility to ensure full employment; second, the market mechanism and the price system to ensure knowledge transmission, and third, the strength of competition relative to the concentration of wealth and power. Roncaglia rightly questions all three conditions in a modern capitalist economy.

Piero Sraffa was a very different character to Hayek, and a very different economist. He was a good friend of Keynes, he had a major influence on the thinking of Wittgenstein, and he was a socialist. Keynes originally invited him to Cambridge from Italy in the early 1920s, and he stayed there as a Fellow of Trinity College until his death in 1983. His life's work was to edit the writings and correspondence of David Ricardo which he started in the 1930s, and were published in ten volumes in the early 1950s (Ricardo, 1951-1955), and at the same time to resuscitate the classical theory of value and distribution based on the ideas of Ricardo and Marx. Before the work came to fruition, however, he had already started the imperfect competition revolution in microeconomic theory by pointing out the incompatibility between the existence of increasing returns and perfect competition (Sraffa, 1926). Alfred Marshall, the high priest of economics in Cambridge at the time, and author of 'the bible'—*Principles of Economics* (Marshall, 1890)—was aware of this inconsistency, but fudged the issue by making increasing returns external to the individual firm but internal to the industry. Sraffa, by contrast, makes imperfect competition centre-stage from the start by replacing the horizontal demand curve of perfect competition with a negatively sloped demand curve which is then compatible with increasing returns. But increasing returns, of course, undermines the notion of competition on which the marginalist approach to economic analysis is based. Sraffa sets about to replace the marginal theory of value by rehabilitating the classical theory of value originally developed by Ricardo and Marx, culminating in his *magnum opus*, *The Production of Commodities by Means of Commodities* (Sraffa, 1960). It is undoubtedly a magnificent intellectual achievement that demonstrates an equilibrium of an economic system in which the relative prices of goods and the distribution of income are determined simultaneously, and that does not depend on the assumption of constant returns to scale in each industry or that equilibrium prices correspond to the equality between supply and demand. Sraffa is the father of the neo-Ricardian school of thought; one of the branches of post-Keynesian economics (see later). Sraffa's system also alluded to the dormant idea that a "re-switching" between techniques of production could take place as the price ratio between labour and capital changes, undermining one of the major tenets of marginalist macroeconomic theory that there is a smooth negative relationship between real wages and the level of employment.

4. Post-World War 2: Developments in micro and macro theory

Chapter 6 of the book marks the break between the pre-World War 2 thinkers and thinking and the post-war developments in economics. At this historical juncture, as mentioned before,

the centre of gravity of teaching and research in economics shifted from the UK and continental Europe to the USA, where, Roncaglia argues, there was no particular dominant orthodoxy in economics. The field was open territory and what emerged was *homo economicus* i.e. rational economic agents maximising utility subject to a budget and other constraints. There were eager young economists with a mathematical bent around, who wanted economics (a social science) to become an exact science akin to the physical sciences. Paul Samuelson's *Foundations of Economic Analysis* (1947) led the way, showing how this could be achieved using differential calculus to solve maximum and minimum problems in the several fields of microeconomics. General equilibrium theory also took off at the same time. The mainstream was born.

Roncaglia gives an impressive overview of the various new developments in microeconomic theory and the names associated with them. First, he references the Chicago school and how Jacob Viner, Milton Friedman and George Stigler dominated the teaching of microeconomics following the new orthodoxy, with no mention of Sraffa's critique of marginalist theory. The invisible hand of the market is always there to ensure equilibrium in the goods and factor markets. Gary Becker is mentioned, as is his application of the utility maximising principle to a variety of social and economic behaviour including marriage, divorce, drug addiction, dating and many other personal activities, but the models are invariably accompanied by very unrealistic assumptions. Many of the Chicago School, however, adopted Friedman's methodological stance that it is not the assumptions of a model that matter, only the predictions (Friedman, 1953). This approach to economic analysis, however, can lead decision-making and policy-making widely astray.

Concurrently with the more rigorous teaching of conventional microeconomic theory, new theories of the firm emerged following Ronald Coase's (1937) classic pre-war paper on why firms exist at all. There is coverage of managerial capitalism; oligopoly theory; Keynesian theories of the firm; contestable markets, and evolutionary theories of the firm. The discussion then moves on to game theory and industrial organisation, and other miscellaneous micro-topics including the principal-agent problem and solutions to it. Roncaglia also notes that a lot of new work in microeconomics aims to produce rigorous foundations for the understanding of macroeconomic phenomena, particularly the existence of unemployment and frictions in the labour market. This work is often referred to as "new-Keynesian", but misleadingly so because it is part of the neoclassical synthesis (see later) which tries to incorporate Keynesian ideas within the marginalist tradition from which Keynes explicitly tried to escape.

Turning to macroeconomics, three main groups of macro-economists after Keynes are distinguished: first, neoclassical synthesis economists; second, monetarists and rational expectations economists who believe that markets work best if left to their own devices without government interference, and third, post-Keynesian economists who remain faithful to Keynes's message with his stress on expectations and uncertainty and that free markets may produce periods of economic crisis and stagnation which require government intervention. The first two groups are dealt with in chapters 7 and 8, but there is an unfortunate gap before the post-Keynesians are discussed in chapter 12.

The founders of the neoclassical synthesis were loath to abandon the marginalist theory of value and distribution and attempt to incorporate Keynes's ideas into the marginalist framework, particularly by assuming rigid money wages and prices despite Keynes's explicit denial in chapter 19 of *The General Theory* that his conclusion of the possibility of mass involuntary unemployment depends on such rigidity. Keynes himself did not help matters by

accepting the first classical labour market postulate of a downward sloping labour demand schedule giving an inverse relation between the real wage and the level of employment (Thirlwall, 1999). But Keynes reversed the direction of causation. At the aggregate level it is not the real wage that determines the level of employment; it is the level of employment, determined by effective demand, that determines the real wage. At the same money wage (and a lower real wage if necessary) there may be many unemployed workers willing to work given the opportunity, but there is no demand for them. They are off their supply curve and involuntarily unemployed. A reduction in money wages is a possibility, but that may not reduce real wages because wages are both a cost and a component of aggregate demand, but, in any case, may be resisted. The source of involuntary unemployment is not rigid money wages and prices, but a lack of effective demand caused by liquidity preference (holding money) with no available mechanisms for automatically equilibrating the goods market at full employment.

John Hicks's (1937) IS-LM model started the misunderstandings of Keynes's conclusions, even though Keynes himself seems to have approved the model at least as a pedagogic device (Keynes, 1973). The model integrates the goods market and the money market in a spuriously deterministic way, when in fact the IS curve giving equilibrium between savings and investment in the goods market, and the LM curve giving equilibrium between the supply and demand for money in the money market, are fundamentally interdependent. When one curve shifts, the other will too. The slopes of the two curves give an indication of the effectiveness of monetary and fiscal policy – that is one of the appeals of the model – in achieving full employment, but there is no explicit labour market in the model. Modigliani (1944) remedied this deficiency and also introduced price effects into the model. In conditions of under-employment, falling prices will increase people's real money balances and consumption will rise (the wealth effect or Pigou effect) pushing an economy towards full employment. Equally, however, falling prices will depress the prospective yields of investment and reduce the net worth of firms, discouraging investment. Falling prices will increase the real money supply, lowering interest rates (the Keynes effect) but not if an economy is in a liquidity trap and interest rates cannot fall further. Price effects are a fragile reed to cling to, to bring a depressed economy back to full employment (Thirlwall, 1972).

The neoclassical synthesis was born in those early years after the Keynesian revolution and continues to thrive in the teaching of macroeconomics, spawning more and more reasons why real wages may not be flexible, the presumption being that if they were, economies would reach a full employment equilibrium in accordance with the marginalist theory of employment. These reasons include: long-term wage contracts; efficiency wage theories; insider-outsider models, and search theory. They all have their plausibility, but they are peripheral to the fundamental Keynesian message.

Unfortunately, as Roncaglia says, the neoclassical synthesis dominates macroeconomic teaching all over the world; and I agree with him when he says

> "the lasting dominance of the neoclassical synthesis in the macroeconomic debate and in particular in University textbooks […] cannot be explained by [its] analytical robustness; the theoretical debate does not take place in a perfect void, but […] is sensitive to ideologies and to political, financial and economic powers" (p. 155).

The policy conclusion from Keynes's analysis of unemployment was to use expansionary monetary and fiscal policy to stimulate the economy and increase employment, but it was recognised that this might cause wage and price inflation before the full employment level is reached. Enter the Phillips curve, which supposedly showed that for the UK economy over the

period 1861 to 1957, there was indeed a negative non-linear relation between the percentage level of unemployment and the rate at which money wages rose (Phillips, 1958). It appeared that there was a menu of policy choice available. Target lower unemployment and accept higher inflation or target lower inflation and accept higher unemployment. This idea of a long-term policy trade-off between inflation and unemployment, however, was challenged in the late 1960s by Phelps (1967) and Friedman (1968) on the grounds that expansionary economic policy which raised prices would be matched by rising money wages leaving the real wage and the level of employment unchanged at what Friedman called the 'natural' rate of unemployment, ground out by the Walrasian system of general equilibrium equations reflecting the structure of the labour market, basically denying any Keynesian involuntary unemployment from the start i.e. workers willing to work at a lower real wage given the opportunity. It is easy to show (Thirlwall, 1983) that the way the natural rate of unemployment is estimated empirically using an expectations-augmented Phillips curve will mirror the actual rate of unemployment because the values of the parameters of the model (which give the so-called NAIRU)[4] are dependent on the pressure of demand. The concept of the 'natural' rate of unemployment is a theoretical construct without any empirical counterpart *ex ante* because it cannot be known in advance. There is nothing natural about the 'natural' rate of unemployment; the actual rate of unemployment and the estimated 'natural' rate move together.

In this chapter 7, Roncaglia moves on to consider the topics of growth theory and theories of economic development. It is not entirely clear why these subjects belong to a chapter on topics in static macro-theory. They really deserve a chapter (or chapters) of their own with a deeper critical discussion. Following Harrod's pioneering *Essay in Dynamic Theory* (Harrod, 1939), which made Keynes's static theory dynamic, the workhorse of growth theory (and its empirical application) has been Robert Solow's neoclassical model of economic growth (Solow, 1956). Why this particular model has dominated the teaching of growth theory throughout the world ever since will probably always remain a mystery because the assumptions and predictions of the model bear no relation to reality.[5] The three main assumptions of the model are: firstly, technology and the labour force grow at a constant exogenous rate; secondly, all saving is invested – there is no independent investment function, and thirdly, that the aggregate production function is homogenous of degree one with diminishing returns to the factors of production, capital and labour. The assumption of diminishing returns to capital is crucial to two of the predictions of the model, which are: firstly, in the steady state, investment does not matter for long-run growth; and secondly, that if the marginal product of capital is higher in capital-scarce, poor, countries than in capital-rich, developed, countries, then poor countries should grow faster than rich countries (for the same savings/investment ratio), leading to a convergence of per capita incomes, and living standards, across the world. The model is totally supply-oriented in which demand plays no role; it is a one-good aggregate model, which ignores the different growth and demand characteristics of different sectors of an economy, and the model applies to a closed economy with no foreign trade or balance of payments to consider. Nell and Thirlwall (2018) show, in a study of 84 rich and poor countries over the period 1980-2011, that there is no evidence of diminishing returns to capital, and that

[4] NAIRU stands for Non-Accelerating Inflation Rate of Unemployment, and is not the same as a structural/frictional level of unemployment that Friedman alludes to.

[5] Except for one prediction, namely that there is a positive relation between the *level* of per capita income and the share of savings/investment in national income.

investment does matter for long-run growth. Moreover, there is no evidence that the levels of per capita incomes are converging across the world. Historically, they have been diverging. So-called 'new' growth theory, or endogenous growth theory, tries to explain lack of convergence by broadening the definition of capital to include human capital, and by endogenizing technical progress. Including human capital (proxied by levels of education) in the empirical testing of new growth theory usually produces evidence of conditional convergence, ostensibly rehabilitating the neoclassical model, but all the other unsatisfactory features of the canonical neoclassical growth model remain the same: supply-oriented; closed economy, and no recognition of structural differences between sectors of an economy. Roncaglia could, and should, have been more critical. The discussion of Cambridge (UK) growth theory is also quite thin. This theory relates to the debates with Cambridge, Massachusetts over the adjustment mechanisms between Harrod's warranted and natural rate of growth, which dominated the growth literature for the two decades of the 1950s and 1960s. Kaldor's switch from the theory of growth to the applied economics of growth in the mid-1960s, and the enunciation of his 'growth laws', also warrant a mention (Kaldor, 1966).

The section on the theories of development could also have been more systematic and critical. A better structure would have taken the reader from the birth of development economics in the post-World War 2 period to the present day. Some of the names of the 'fathers' of development economics, such as Paul Rosenstein-Rodan, Ragnar Nurkse, Gunnar Myrdal and Albert Hirschman are consigned to a footnote. Dependency theory; the Prebisch-Singer thesis of the deteriorating terms of trade of primary commodities; the Lewis model of economic development with unlimited supplies of labour; Rostow's stages of growth; geographic dualism; Kaldor's stylised facts (but not his growth laws) are all mentioned but could have been elaborated in a separate chapter. This would also have given space for expanding on more recent developments in thinking about the meaning of development and the measurement of poverty on the lines of Amartya Sen's language of people's entitlements and capabilities (but see later); on the role of institutions in the development process, and Banerje and Duflo's use of randomised control trials to test what works and what does not to improve people's education and health, and to alleviate poverty more generally. This might also have been the place to mention Paul Krugman's 'new trade theory' (Krugman, 1986) which has implications for the debate on trade liberalisation, and Krugman's 'new economic geography' (Krugman, 1991) based on increasing returns (internal and external) in industry which gives a clear and simple explanation of why concentrations of economic activity cluster in particular locations, and may shift as transport costs change.

5. Back to the assault on Keynes

In chapter 8, Roncaglia identifies and compares different streams of neo-liberal thinking, all hostile to Keynesian theory and policy: ordo-liberalism, born in Germany in the 1930s and still alive today; the Austrian school of Ludwig von Mises and Friedrich von Hayek, reincarnated in the 1930s; the Chicago School which evolved from the 1930s and 1940s, with Jacob Viner, Frank Knight and Henry Simons, to the dominance of Milton Friedman, Robert Lucas and Gary Becker in the 1970s and 1980s; the rational expectations School led by Lucas, and the Public Choice School led by James Buchanan. All the Schools take different stances but they are all united in the belief in the automatic tendency in a competitive market economy

toward an optimal full employment equilibrium, and are all opposed to State intervention in the economy as a threat to individual freedom, liberty and private property.

I shall focus here on Friedman (the architect of monetarism mark 1) and Lucas (the architect of monetarism mark 2 or the new classical macroeconomics) where I think that Roncaglia could have been more sceptical of the ideas espoused, particularly based on the empirical evidence that we now have. In the case of Friedman, apart from his innate dislike of big government and its power to print money, his attack on Keynesian stabilisation policy had four strands. The first has already been mentioned: in the long run governments cannot reduce unemployment below its natural rate without ever-accelerating inflation. This begs the question of how the natural rate of unemployment is estimated, and whether involuntary unemployment exists or not. The second claim is that the only source of inflation is an exogenous increase in the money supply created by governments running budget deficits. Trade unions, pushing up wage costs, do not cause inflation. Thirdly, there is the belief that in the long run the demand for money per unit of money income is stable, so that there is a perfectly predictable relationship between increases in the money supply and the price level, which also assumes the full employment of resources. Fourthly, in the short run, the demand for money is very unstable so that a variable monetary policy may do more harm than good. It would be better for governments to pursue a monetary rule of a constant growth of the money supply in line with the growth of the productive potential of an economy. Nicholas Kaldor, in his devastating critique of monetarism (Kaldor, 1982), challenges all these tenets of monetarism mark 1. There is no link across countries between the size of budget deficits and the growth of the money supply. This should not be surprising because most money in modern day capitalist economies is credit money which comes into existence because it is demanded from the banking system and is not exogenously determined. If there is a stable long-run demand for money function, it is because the supply of money increases to meet the demand for it, and cannot be taken as proof that money is the exogenous cause of rising prices. Even if it is shown that changes in the money supply precede changes in money income this is also not proof that money is causal in raising prices. Event A preceding event B does not preclude B being the cause of A. The money supply increases before Christmas, but it is not the cause of Christmas!

The Friedman mantra that "inflation is always and everywhere a monetary phenomenon" was enormously influential in policy-making in the 1980s, particularly in Mrs Thatcher's Britain and Ronald Reagan's USA (but also in other countries) and the policies implemented wreaked havoc on the real economies. Inflation was tamed by strict monetary policies, but its cost was massive unemployment and the destruction of manufacturing industry. Under the weight of empirical evidence, monetarism died a slow death, but before that in the 1970s another, more sinister, version of monetarism emerged from Chicago, based on Robert Lucas's theory of the rational expectations of agents which are assumed to neutralise completely any attempts by governments to intervene in the economy to reduce unemployment. Expansionary policies will cause wage increases to match price increases *immediately* so that there is not even a short-run trade-off between inflation and unemployment, which implies that all fluctuations in an economy must emanate from the supply-side of the economy, which forms the basis of Lucas's real business cycle theory (Lucas, 1972). The Phillips curve is vertical at the 'natural' rate of unemployment. Keynes's fundamental notion of involuntary unemployment is assumed away from the outset, which led Frank Hahn to suggest that he

wished Lucas would become involuntarily unemployed and then he would know what the concept is all about (Hahn, 1982, p. 50).[6]

Apart from the vertical Phillips curve, Lucas anticipates Barro's Ricardian equivalence theorem (Barro, 1974) that if governments spend and go into debt, private agents will anticipate future tax increases to repay the debt and will reduce their consumption by an equal amount, negating the increase in government expenditure. This must be one of the most absurd propositions in all of economics. Most agents do not know their existing tax liabilities, let alone what their liabilities are likely to be in an uncertain future. To put a further nail in the Keynesian coffin, Lucas also argued that Keynesian economics cannot explain stagflation (the combination of high unemployment and rising prices that countries experienced in the 1970s and 1980s), but he had clearly forgotten, or had never read, chapter 3 of Keynes's *General Theory* where an upward shift in the necessary receipts schedule of business (or the aggregate supply curve) caused by wage increases, for example, produces rising prices and falling employment. Monetarism mark 2 and the new classical macroeconomics is also now dead, so perhaps Lucas might wish to retract the insult he wrote in 1980 about Keynes and Keynesian economists when he said "one cannot find good under-40 economists who identify themselves or their work as 'Keynesian'. Indeed, people don't take Keynesian theorising seriously anymore; the audience starts to whisper and giggle at one another" (Lucas, 1980, p.19). The fallacies in the doctrine and practice of monetarism, which led to such turmoil and the fragmentation of macroeconomics in the last three decades of the twentieth century could, perhaps, have been exposed more fully by Roncaglia, particularly based on the evidence before us in the form of the financial crisis in 2007/2008, and the policy response to it. And now, in the present Covid-19 crisis, there has never been more clamour from economists and policy-makers for government action to support aggregate demand. We are all Keynesians now (except, perhaps, for Robert Lucas)!

6. Applied economics and econometrics

The purpose of applied economics is to try and verify economic theory or, at least by adopting the methodology of Friedman (1953) and Karl Popper (1969), to set up hypotheses capable of refutation.[7] This is done by building models of economic behaviour and confronting them with empirical data. Models come in a variety of forms. They can range from simple tables of statistics; charts; graphs and diagrams, to sophisticated multi-equation, large scale econometric models spanning several countries of the world. The main trouble with applied economics, however, is that even if a model is refuted several times, those with a vested interest in the theory being tested will always find a way to criticise the way the model has been tested, so models are rarely ever discarded; theories just accumulate. As Roncaglia puts it "it is quite difficult to utilise econometric tests to falsify a 'law', as its failure in a specific case may be

[6] Kaldor and Trevithick (1981) also weighed in to the rational expectations theory by writing "the rational expectations theory goes beyond the untestable basic axioms of the theory of value, such as the utility maximising rational man whose existence can be confirmed only by individual introspection. The assumption of rational expectations which presupposes the correct understandings of the workings of the economy by all economic agents – the trade unionists, the ordinary employer, or even the ordinary housewife – to a degree which is beyond the grasp of professional economists, is not science, nor even moral philosophy, but at best a branch of metaphysics." (p. 15).
[7] According to Friedman (1953) "factual evidence can never 'prove' a hypothesis; it can only fail to disprove it" (pp. 8-9).

always justified by referring to some anomalous circumstances" (p. 230). In Friedman's methodology, it is not clear whether a single erroneous forecast is sufficient to abandon a theory (as in Popper's case) or whether other conditions must be met, such as a series of erroneous forecasts, or an alternative theory offering better results. This characteristic of economics, and other social sciences, is in stark contrast to the physical sciences in which the falsification of a theory kills it.

In his description of quantitative analysis, Roncaglia covers several topics: the collecting of statistics and tables, as William Petty did in the seventeenth century and was the founder of political arithmetic; input-output analysis and linear programming; national income accounting; econometrics, and computing and machine learning. Wassily Leontief is regarded as the 'father' of input-output analysis but Roncaglia reminds us that its origins can be found in Quesnay's *Tableau Economique* and in Marx's reproduction scheme in volume 2 of *Capital* (Marx, 1867-1894).

With regard to national income accounting, Roncaglia fails to appreciate that it was Keynes, along with James Meade and Richard Stone within the UK Treasury, who was the inspiration behind national income accounting, and pressed for general circulation of the estimates of national income at the beginning of World War 2. The first White Paper on national income was published in the UK in 1941, and its format became the model world-wide. Kaldor reviewed the first Paper (and two subsequent ones) for the *Economic Journal* (Kaldor, 1941), and his Hungarian friend, Tibor Scitovsky, wrote from America "your articles on the two British White Papers are regarded as classics in this country – everybody regards them as a model in which the corresponding estimates in this country are being made" (cited in Thirlwall, 1987, p. 87). Richard Stone carried on work on national income accounting after the war in the Department of Applied Economics in Cambridge, UK, including as Director of a system of national accounts initiated by the United Nations in 1953, and he was awarded the Nobel Prize for Economics in 1984 for his pioneering work.

The dominant model used in applied economics is no longer descriptive statistics, but testing econometric models based on probability theory. These models come in various shapes and sizes: time series; cross section; panel; bi-variate; multi-variate; single equation; simultaneous equations, and so on. Roncaglia credits the Italian, Rodolfo Benini, with the first attempt at multiple regression in 1907, followed by the American, Henry Moore, and his pupils Paul Douglas and Henry Schultz. Reflecting these new developments in applied economics, the journal *Econometrica* was founded by Ragnor Frisch in 1933.[8] The Cowles Commission in the United States was actively involved in the development of new econometric techniques, and Lawrence Klein constructed the first econometric model of the US economy, paving the way for other countries.[9]

Roncaglia reminds us of the major breakthroughs in econometric analysis to cope with the various statistical problems associated with estimation, such as the endogeneity of variables; the multi-collinearity of variables; the serial correlation of residuals; unit roots; structural breaks in the data, and the techniques to test and overcome them. The major controversy, however, of whether models should be tested from the 'top down', using the general to specific methodology of Hendry (2001) or the 'bottom up' extreme bounds methodology of Leamer (1983), is not addressed. The use of econometrics, however, will always be controversial because of the nature and quality of data, not to mention the Lucas critique that the estimated

[8] Frisch and Jan Tinbergen were the first recipients of the Nobel Prize in Economics in 1969.
[9] Klein won the Nobel Prize for Economics in 1980.

structural parameters linking variables may change when policy changes take place, which casts doubt on the usefulness of models for forecasting purposes and policy action (Lucas, 1976).

At the end of the chapter on applied economics and econometrics, examples of applied economic analysis are given, but they are limited to the three areas of market regulation; the economics of energy resources, and the environment. It would have been nice to have a few examples from macroeconomics in controversial fields such as the causes of unemployment, or in growth economics where the issue of whether the supplies of factors of production, labour and capital, are exogenous or endogenous still remains unresolved.

7. Rejecting *homo economicus*

The idea of *homo economicus*, as the selfish agent maximising expected utility, has always been a caricature, but nonetheless forms the basis of assumed rational behaviour in many fields of economics. Early exceptions would be Adam Smith's discussion of human behaviour which includes a moral dimension, and John Stuart Mill's criticism of the felicific calculus of Jeremy Bentham.

Roncaglia divides criticisms of *homo economicus* into rejections from below and from above. Criticisms from below pertain to experimental economics, pioneered by Vernon Smith (1962) which seeks to discover how individuals make their decisions in practice, and finds that they are not usually 'rational' in the conventional sense, leading to the notion of "bounded rationality", originally proposed by Henry Simon (1957). With criticisms from above, the postulate of perfect rationality is simply rejected from the outset because agents make choices in a more complex environment than assumed by expected utility theory. One dimension of complexity is fundamental uncertainty which was one of the central messages of Keynes's *General Theory*. A second dimension is that agents are not driven by just one given motive, but by many different interests and passions. For example, selfishness may be tempered by considerations of equity or by what is considered fair. This is where the interplay between economics and psychology becomes relevant as pioneered by Kahneman and Tversky (1979) in what they term "prospect theory".

The original work of Vernon Smith in experimental economics was quite basic, but later work by others shows numerous cases where the mainstream notion of rationality is contradicted. Henry Simon, who introduced the concept of "bounded rationality", refers to this as "satisficing behaviour" in his behavioural evolutionary theory of the firm. Agents do not maximise, they satisfice (Simon, 1972). Kahneman and Tversky show in their "prospect theory" that while at the descriptive level expected utility theory turns out to be disproved, a reformulation of the theory to account for risk aversion rehabilitates it. So "prospect theory" explains the way agents behave in the presence of risk. Richard Thaler and colleagues have been at the forefront of analysing various aspects of prospect theory, and have conducted a number of experiments showing anomalies that contradict the paradigm of *homo economicus* and use their results to advocate that governments should nudge agents to overcome deviations from fully rational behaviour (see Thaler and Sunstein, 2008). It forms the basis of nudge theory.

8. Finance and financial crises

As well as the weakening of assumed *homo economicus*, another weakening of the paradigm of the efficient functioning of capitalist countries has been the financialization of economies: i.e., the liberalisation of financial markets; the growth of retail and investment banking, and the greater leverage of firms and households, creating a mountain of debt. In chapter 11, Roncaglia reminds us that central to classical and monetarist thinking is that money is a 'veil'; that money does not affect real variables – the so-called classical dichotomy. Keynes in *The General Theory* rejected that and so too do Keynes's followers.[10] Hyman Minsky in particular, as early as 1964, had written about the inherent instability of financial markets (Minsky, 1964), and the inherent instability of capitalist economies built on debt. Roncaglia paints a warm picture of Minsky the man, and shows how his theory follows very closely what Keynes had to say about economic booms and busts. When an economy is an expansionary phase, a euphoria builds up; asset prices rise; borrowing increases; debts build up, all making the underlying financial state of the economy more fragile. The boom sows the seeds of its own destruction. When the burden of debt gets too great, and asset prices start to fall, agents de-leverage which initiates a process of debt deflation – a Minsky moment, as it is sometimes called. This is what Keynes had to say:

> "The later stages of the boom are characterised by optimistic expectations as to the future yields of capital goods sufficiently strong to offset their growing abundance and their rising cost of production, and probably, a rise in the rate of interest also. It is of the nature of organised investment markets under the influence of purchasers largely ignorant of what they are buying and of speculators who are more concerned with forecasting the next shift in the market sentiment than with a reasonable estimate of the future yield of capital assets that, when disillusion falls upon an over optimistic, and over-bought market, it should fall with sudden and even catastrophic force" (Keynes, 1936, pp. 315-316).

This could be pure Minsky, in contrast, of course, to the efficient market hypothesis of Fama (1970) – widely taught in Business Schools and Departments of Economics throughout the world – that the prices of financial assets at any one time fully reflect all known information based on the rational expectations of agents. This efficient market hypothesis legitimised the attitude of *laissez-faire* towards financial markets, with no apparent need for close supervision because the possibility of speculative bubbles, followed by a crash, is ruled out. What is missing from the theory is recognition of uncertainty, not probabilistic uncertainty to which risk analysis can be attached, but fundamental uncertainty as described by Keynes. Agents may think they are 'rational', but the future is unknowable.

The complacency and hubris, fostered by the efficient market hypothesis, was a major contributor to the financial crisis of 2007/2008 which caused a partial collapse of the banking system across many countries of the world, leading to the State rescue of banks that were deemed "too big to fail". It also led, not soon enough, to the imposition of much stricter regulation of the activities of the financial system including measures to increase bank liquidity and capital reserves. Roncaglia avoids discussing the causes of the financial crisis, but they are well known, including: allowing retail banks also to become investment banks; the irresponsible over-lending by banks particularly to poor people with minimum collateral; the

[10] Milton Friedman used to criticise Keynes by saying that money doesn't matter in *The General Theory*, presumably because Keynes attacked the quantity theory of money. But if Friedman had read *The General Theory* properly, he should have understood that money matters too much!

hubris of the credit rating agencies; ignorance of collateral debt packages (CDOs) off-loaded by the banks, and last, but not least, poor regulation. Financial institutions take risks to make profits for their shareholders, and regulators were asleep on the job.[11] Capitalist economies are still dominated by financial markets. When a policy initiative is contemplated, the question always asked is 'how will the financial markets react?' All this directs focus away from the real economy.

9. Post-Keynesian economics

There has been an impressive growth in post-Keynesian theory and thinking over the last forty years as a challenge to the neoclassical mainstream encouraged by the founding of the *Journal of Post Keynesian Economics* in 1978 and the *Review of Keynesian Economics* in 2012, and by the creation of various post-Keynesian and heterodox study groups. Post-Keynesianism is a broad church comprising many different strands including: unreconstructed Keynesians; Kaleckians; Sraffians (or neo-Ricardians), and institutionalists, but they all share common Keynesian beliefs: the non-neutrality of money; that effective demand in the goods market determines the level of employment; the notion of fundamental uncertainty; that economic processes take place in historical, irreversible time, and that the distribution of income affects the functioning of societies both economically and politically (Thirlwall, 1993; Hein, 2017). Post-Keynesians also share with heterodox economists the belief in the importance of realism in economics; the use of the inductive method in research; the limits to rational behaviour; the acceptance of radical uncertainty; the recognition that markets have a creative function and not simply an allocative one, and that regulation and State intervention in the economy are necessary for welfare maximisation.[12] Notwithstanding the vast literature that now exists on post-Keynesian economics, when I invited Robert Solow to give a paper at the *11th Keynes Seminar* held at my own University in 1993 on the topic of *Keynes and the Post-Keynesians*, he replied "I have to say that it would be very hard work for me to prepare a paper on Post-Keynesian economics. That literature doesn't make a lot of sense to me, and for that reason I tend to neglect it" (letter dated 28th March, 1993).[13]

Roncaglia doesn't pursue many of the characteristics of the post-Keynesian/heterodox agenda listed above, but instead concentrates on what he calls 'the Cambridge tradition': the debates on the interpretation of Keynes; the controversies over the theory of capital and the marginal theory of value, and the Cambridge theories of income distribution. These topics are important but they are not at the core of the current post-Keynesian agenda. They belong to the past.

Nevertheless, Roncaglia has interesting reminiscences on the different characters active in Cambridge from the turn of the twentieth century including Arthur Pigou, Dennis Robertson, James Meade, Richard Stone, Piero Sraffa, Maurice Dobb, Richard Goodwin, Richard Kahn, Joan Robinson, Nicholas Kaldor, and later, Amartya Sen, Luigi Pasinetti, Pierangelo Garegnani; Luigi Spaventa, and Mario Nuti. He mentions the 'new Cambridge School' which included Kahn,

[11] In the UK, the Financial Services Authority, the Bank of England, and the Treasury have all admitted that.

[12] Short, useful, introductory books on post-Keynesian economics are Arestis (1992); Davidson (1994); Lavoie (2007), and King (2015).

[13] In separate correspondence, Solow once wrote to me "I don't know if I am an unreconstructed Keynesian, but I am a Keynesian, neither post or new" (letter dated 24th November, 1998). An interesting confession!

Robinson, Kaldor and Sraffa (who, he argues, was closer to Keynes than some people think). As an aside, Roncaglia also recalls how the Polish economist, Michal Kalecki, had more or less anticipated Keynes's conclusions in the early 1930s, but his work was written in Polish. There is some substance in this view, but there are differences in approach. For example, the role of expectations and uncertainty is missing in Kalecki. On the other hand, Kalecki's model incorporates a theory of income distribution, based on a mark-up theory of the pricing behaviour of firms, which is lacking in Keynes.

Debates on the interpretation of Keynes include the post-Keynesian challenge to the IS-LM curve analysis previously discussed; the non-neutrality of money; the endogeneity of money; the primacy of the investment decision by entrepreneurs in contrast to the doctrine of consumer sovereignty that characterises the marginalist tradition; the importance of historical time i.e. the non-ergodicity of economic systems, and the inherent instability of capitalism à la Minsky.

Modern debate on the theory of capital started with Joan Robinson's criticism of the neoclassical production function over the measurement of capital (Robinson, 1953), which also foreshadowed Sraffa's work, although at this juncture she did not dwell on the issue of the re-switching of techniques of production. In this chapter there is a lot on Sraffa's work, and this is followed by discussion of what Roncaglia describes as 'The Sraffian Schools' which attempt to reconstruct classical political economy on Sraffian lines. First, there is Pasinetti's 'Ricardian Reconstruction'. Roncaglia praises Pasinetti's work and particularly his *Structural Change and Economic Growth* (Pasinetti, 1981) in which the attempt is made to unify various strands of post-Keynesian thinking including Keynes and Kalecki; Leontief and Sraffa; Harrod and Domar; theories of the firm; theories of the trade cycle, and post-Keynesian theories of income distribution. Secondly, there is Garegnani's 'Marxian Reconstruction', and thirdly Sylos Labini's 'Smithian Reconstruction'. None of these make easy reading for the uninitiated. Roncaglia ends the chapter with a discussion of the possibility of a Keynesian-Sraffa synthesis arguing that such a synthesis is possible by recognising the strength of each of the two approaches to economic analysis: the Keynesian one for understanding the workings of a monetary, production economy, and the Sraffian one for analysing the conditions of reproduction of a capitalist economy based on the division of labour, and where there is no smooth inverse relation between employment and the real wage. It is never made entirely clear, however, what would be gained from such a synthesis.

10. Institutions

The way that institutions affect the evolution of economies and how economic development shapes the creation of institutions is a complex process. Chapter 13 of the book presents a *pot-pourri* of ideas of different authors attempting to describe the evolution of economies from primitive beginnings to high levels of development, and the role that institutions play.

Roncaglia starts with Marx who, in *Das Capital* (Marx, 1867-1894), predicted that capitalism would end in economic crisis and violent revolution due to a falling rate of profit on capital and the attempt by capitalists to reduce the wages of workers. Marx's economic predictions have not materialized but his ideas have exerted enormous political influence across the world. In his economic theories, Marx vastly underestimated the role of technical

progress in industry (just as Malthus underestimated the role of technical progress in agriculture) which allows the real wage of workers to rise without the rate of profit falling. Marx also thought he had found the solution to what is known as the 'transformation problem', namely the translation of labour values into the prices of production, but many Marxist scholars pass doubt on this (e.g. Sraffa, 1960; Steedman, 1977). Roncaglia mentions the names of many Marxian economists including the Americans Paul Baran and Paul Sweezey, and the Cambridge don, Maurice Dobb. Marx himself may have been a revolutionary but most Marxist scholars have always preferred the evolutionary road to socialism rather than revolution. There have, of course, been many different visions of socialism through time, but as Roncaglia rightly points out, the fall of the Berlin Wall in 1989 changed the debate; certainly the dominant role of Soviet Marxism came to an end.

Turning to the evolution of societies, the early work of Karl Polanyi is highlighted. Polanyi, in his masterpiece *The Great Transformation,* describes the functioning of societies before the evolution of the market economy; the origin of markets, and the conditions for their survival (Polayni, 1944). John Kenneth Galbraith is described as the best known exponent of institutionalism with his works *American Capitalism* (1952) and the *New Industrial State* (1967) which introduced the notions of counter-veiling power, and exposes the myth that the consumer is king in market economies because in reality it is the power of large corporations that manipulates the wants and desires of consumers.

A category of 'new institutionalists' is identified including Douglass North (who first brought to the fore the role of institutions in economic development), as well as Daron Acemoglu, Simon Johnson and James Robinson who emphasise the role of property rights and the rule of law in explaining differences in the level of development between countries, making the distinction between "extractive institutions" on the one hand and "settled institutions" on the other (Acemoglu et al., 2002). Democracy, property rights, corporate government institutions, financial institutions and welfare and labour institutions all seem to have been important for development in the past, but as Chang (2003) points out, the lessons of history are that many institutions deemed to be important for poor developing countries today emerged after, not before, economic development was taking place, and it took them a long time to emerge in fully-fledged form from the time of their perceived need. If true, this would mean that institutional development is not the *sine qua non* of economic development, and institutional reform in developing countries should not be imposed from outside, but should be allowed to evolve naturally from within.

Technology plays a major role in the evolution of economies and institutions. This was the implication of Schumpeter's oft-quoted phrase "the process of creative destruction" (the new replacing the old), and the work of Nelson and Winter (1982) on the evolutionary behaviour of firms and industries in the process of technical change.

The ideas of Albert Hirschman, the distinguished development economist, are also recalled in a section on *Development Economics and Interaction with Cultural Evolution* with his theory of 'exit, voice and loyalty' in the political realm (Hirschman, 1970), and his theory of unbalanced growth in the field of development economics (Hirschman, 1958).

11. Ethics and welfare

In the final chapter of the book, Roncaglia turns his attention to the ethical basis of economics, and how the welfare of a society should be judged. He disagrees with Thomas Carlyle's description of economics as the 'dismal science'. Instead he praises "economics as a warm science, animated by passions – including the hope of improving the lot of human beings – that motivates economists in their research work [but they] need to be kept under control by the researcher's ethics" (p. 325). At the same time he notes that in the era of neo-liberalism there has been a sudden shift "from a markedly egalitarian to a markedly unequal distribution of income and wealth [...] the creation of a new oligarchy clearly connected with political power [and] simultaneously the crisis of the state institutions implies a worsening of the services provided by the Welfare State" (p. 371). Roncaglia regards it as an impossible task to define a perfectly just world (and to try to achieve it), but he concurs with the views of Amartya Sen that the pursuit of justice implies at the very least the "prevention of manifest injustices in the world" (Sen, 2009, p. 106).

Income inequality is an ethical issue which preoccupies economists and philosophers alike. The measurement of income inequality goes back at least to Gini (1912), and has recently been meticulously documented for several countries over many years by Thomas Picketty (2014). Within marginal value theory, income distribution depends on the prices of factors of production determined by marginal productivity, and thus have optimal values in competitive markets, but there is nothing in the market mechanism that guarantees an equal or 'fair' distribution of income. In orthodox welfare economics, the concept of a Pareto optimum rules out inter-personal comparisons of utility. Each competitive equilibrium is a Pareto optimum, but assumes a given income distribution. Kaldor (1939) and Hicks (1939) tried to remedy this unsatisfactory situation with the idea of compensation tests, i.e. a change, could be regarded as a Pareto improvement provided that the gainers could hypothetically compensate the losers and still be better off, but as Ian Little (1950) pointed out in his critique of the 'new welfare economics' this still avoids any ethical evaluation of the income distribution. The rich could more than compensate the poor, but the poor could still be relatively worse off. This cannot be a welfare improvement. What is required is a measure of welfare that allows for inter-personal comparisons of utility. One approach is to specify a social welfare function, first proposed by Bergson (1938) and developed by Samuelson (1947), but the issues of who chooses the welfare function and the aggregation of individual preferences still remain unsolved.

Roncaglia spends a lot of time discussing the ideas of John Rawls and Amartya Sen who both write on the borderline between economics and ethics, and move away from income as a measure of welfare and consider what is meant by a just society. Rawls (1971) asks people, behind a veil of ignorance, what sort of society would they prefer to live in; an unequal one where there is a small probability of an individual becoming rich and everyone else is poor, or a more equal society where everyone has a decent standard of life, and the chance of becoming rich is quite low? The vast majority of people choose the latter scenario[14] and yet we live in a world where 700 million people live on less than $2 a day, and the assets of the world's 500 richest people exceed the total income of nearly one-half of the world's population.

What Sen does in his various works (e.g. Sen, 1999) is to broaden the meaning of development away from the focus on the per capita income of individuals to the wider concepts

[14] Every year, I ask my own students, and the answer is always the same.

of people's entitlements and capabilities, the latter giving freedom.[15] Freedom should be the primary objective of economic and social development. Development consists of the removal of various types of 'unfreedoms' that leave people with little choice or opportunity. Major 'unfreedoms' include undernourishment, poor health and lack of basic needs; poor education; a lack of political liberty and basic civil rights, and economic insecurity. Sen's ideas and work have been enormously influential within the international community, as can be seen, for example, in the World Bank's *World Development Report 2000/2001* which is devoted to the subject of how to expand the entitlements, capabilities and freedom of poor people (World Bank, 2000). The Human Development Index published annually by the United Nations Development Programme (UNDP) was also partly his inspiration.

Rawls argues in the same vein as Sen. He makes the distinction between rights, functions and capabilities. Capabilities refer to constraints that limit a person's freedom of action, determining what they cannot do, as opposed to what they can do. These constraints may be lack of income, but also poor education; belonging to the wrong social class/caste or religion, or discrimination based on race or gender.

Roncaglia gives short shrift to the human desire for happiness which some would argue should be the goal of economic life (Layard, 2005) which goes back to the utilitarian, Jeremy Bentham, and his attempt to construct a measure of happiness using felicific calculus. The pursuit of happiness, however, does not imply the selfishness of *homo economicus* maximising their own utility at the expense of others. A personal utility function can include equity considerations and other people's utility which is the basis for altruism. The field of happiness economics is often heavily criticised because of its subjective nature, but the repeated results from surveys of countries, and of social groups within countries, can reveal a lot about the welfare of countries and policies that might improve the happiness of its individual citizens, including major causes of unhappiness such as mental illness and loneliness, at least in Western societies. Bentham was right that the maxim that societies should strive for is "the greatest happiness for the greatest number", but happiness should not be confused with income or material possessions.

12. Conclusion

In writing this book, Roncaglia set himself a Herculean task and has accomplished it magnificently. There are no sins of commission, as far as I can see, but there are a few sins of omission. There should have been more discussion of Joan Robinson's work on imperfect competition theory and capital theory, and more on Kaldor's growth models and the applied economics of growth. Krugman's 'new trade theory' and 'new economic geography' could have been elaborated on. Information economics, pioneered by George Akerlof, Michael Spence and Joseph Stiglitz, is entirely missing; and so too is the devastating critique of the neoclassical production function for measuring technical change by Felipe and McCombie (2013).

Given the title of the book, it is also strange that the word 'fragmentation' hardly appears. I was expecting discussion of how the undoubted fragmentation of economics has affected the discipline; how it is so difficult to teach economics without a more unified view of how economies function particularly at the macro-level; how reluctant economists are to give up

[15] 'Capabilities to function' is the term used by Sen which represents the various combinations of functionings (beings and doings) that a person can achieve.

ideas, even if they have been shown to be 'wrong', because there is always some objections raised to the falsification of a theory. Rational expectations still live on.

But this is a minor quibble. The book is a majestic intellectual effort, and it is only fair to give the last word to the author for his own justification for the study of economic thought:

"Economists have an active role in society, and each of us interprets it according to our own convictions, reached on the basis of an arduous pursuit of logical rigour and realism; each of us has the duty to state our results in the clearest possible way – at the same time each of us has the duty to be open to debate and criticism. For this reason, the study of other economists' thought – the study of the history of thought, ancient and recent – must remain a central aspect of our activity" (p. 367).

All those who call themselves economists should salute Alessandro Roncaglia for keeping the history of economic thought alive.

References

Acemoglu D. and Robinson J.A. (2012), *Why Nations Fail: The Origins of Power, Prosperity and Poverty,* New York: Crown Publishers.

Acemoglu D., Johnson S. and Robinson J.A. (2002), "The Colonial Origins of Comparative Development: An Empirical Investigation", *American Economic Review,* 91 (5), pp. 1369-1401.

Arestis P. (1992), *The Post-Keynesian Approach to Economics: An Alternative Analysis of Economic Theory and Policy*, Aldershot: Edward Elgar.

Barro R. (1974), "Are Government Bonds Net Wealth?", *Journal of Political Economy*, 82 (6), pp. 1095-1117.

Bergson A. (1938), "A Reformulation of Certain Aspects of Welfare Economics", *Quarterly Journal of Economics*, 52 (2), pp. 310-334.

Chang H.-J. (ed.) (2003), *Rethinking Development Economics*, London: Anthem.

Coase R. (1937), "The Nature of the Firm", *Economica,* 5 (4), pp. 33-55.

Davidson P. (1984), *Post Keynesian Macro Theory,* Aldershot: Edward Elgar.

Fama E. (1970), "Efficient Capital Markets: A Review of Theory and Empirical Work" *Journal of Finance*, 25 (2), pp. 383-417.

Felipe J. and McCombie J.S.L. (2013), *The Aggregate Production Function and the Measurement of Technical Change: 'Not Even Wrong'*, Cheltenham: Edward Elgar

Friedman M. (1953), *Essays in Positive Economics*, Chicago: Chicago University Press.

Friedman M. (1968), "The Role of Monetary Policy", *American Economic Review,* 58 (1), pp. 1-17.

Galbraith J.K. (1952), *American Capitalism: The Concept of Counter-Veiling Power*, Boston: Houghton Mifflin.

Galbraith J.K. (1967), *The New Industrial State*, Boston: Houghton Mifflin.

Gini C. (1912), *Variabilità e Mutabilità. Contributo allo Studio delle Distribuzioni e delle Relazioni Statistiche*, Bologna: P. Cuppini.

Hahn F. (1982), *Money and Inflation*, Oxford: Blackwell.

Harrod R. (1939), "An Essay in Dynamic Theory", *Economic Journal*, 49 (139), pp. 14-33.

Hayek F.A. von. (1939), *Profits, Interest and Investment*, New York: Augustus M. Kelley.

Hayek F.A. von. (1944), *The Road to Serfdom*, Chicago: Chicago University Press.

Hayek F.A. von. (1931), *Prices and Production*, London: Routledge.

Hein E. (2017), "Post-Keynesian Macroeconomics Since the Mid-1990s – Main Developments", *European Journal of Economics and Economic Policies: Intervention*, 14 (2), pp. 131-172.

Hendry D. (2001), "Achievements and Challenges in Econometric Methodology", *Journal of Econometrics,* 100 (1), pp. 7-10.

Hicks J. (1937), "Mr Keynes and the Classics", *Econometrica,* 5 (2), pp. 147-159.

Hicks J. (1939) "The Foundations of Welfare Economics", *Economic Journal*, 49 (196), pp. 696-712.

Hirschman A. (1958), *Strategy for Economic Development,* New Haven (CT): Yale University Press.

Hirschman A. (1970), *Exit, Voice and Loyalty*, Cambridge (MA): Harvard University Press.

Kahn R. (1984), *The Making of Keynes's General Theory,* Cambridge: Cambridge University Press.

Kahneman D. and Tversky A. (1979), "Prospect Theory: An Analysis of Decisions Under Risk", *Econometrica,* 47, pp.263-291.

Kaldor N. (1939), "Welfare Propositions in Economics and Interpersonal Comparisons of Utility", *Economic Journal*, 49, pp. 549-552.
Kaldor N. (1941), "The White Paper on National Income and Expenditure", *Economic Journal*, 51 (202/203), pp. 181-191.
Kaldor N. (1942), "Professor Hayek and the Concertina Effect", *Economica,* 9 (36), pp. 359-382.
Kaldor N. (1966), *Causes of the Slow Rate of Growth of the United Kingdom,* Cambridge: Cambridge University Press.
Kaldor N. (1982), *The Scourge of Monetarism,* Oxford: Oxford University Press.
Kaldor N. and Trevithick J. (1981), "A Keynesian Perspective on Money", *Lloyds Bank Review*, January.
Kay J. and King M. (2020), *Radical Uncertainty,* London: The Bridge Street.
Keynes J.M. (1931), "The Pure Theory of Money: A Reply to Dr Hayek", *Economica*, (34) pp. 387-397.
Keynes J.M. (1936), *The General Theory of Employment, Interest and Money,* London: Macmillan.
Keynes J.M. (1973), *The General Theory and After*, in Moggridge D. (ed.), *The Collected Writings of John Maynard Keynes*, vol. 13 (Part 1: Preparation), vol. 14 (Part 2: Defence and Development), London: Macmillan.
King J. (2015), *Advanced Introduction to Post-Keynesian Economics*, Cheltenham: Edward Elgar.
Krugman P. (1986), *Strategic Trade Policy and the New International Economics,* Cambridge (MA): MIT Press.
Krugman P. (1991), *Geography and Trade*, Cambridge (MA): MIT Press.
Lavoie M. (2007), *Introduction to Post-Keynesian Economics*, London: Palgrave-Macmillan.
Layard R. (2005), *Happiness,* Harmondsworth: Penguin.
Leamer E. (1983), "Let's Take the 'Con' out of Econometrics", *American Economic Review,* 71 (3), pp. 31-43.
Little I.M.D. (1950), *A Critique of Welfare Economics,* Oxford: Clarendon Press.
Lucas R. (1972), "Expectations and the Neutrality of Money", *Journal of Economic Theory*, 4 (2), pp. 103-124.
Lucas R. (1976) "Economic Policy Evaluation: A Critique", in Brunner K. and Meltzer A. (eds.) *The Phillips Curve and Labour Markets,* Amsterdam: North Holland.
Lucas R. (1980), "The Death of Keynesian Economics", *Issues and Ideas,* Winter, pp. 18-19.
Marshall A. (1890), *Principles of Economics,* London: Macmillan.
Marx K. (1867-1894), *Das Kapital,* 3 Volumes. Hamburg: O. Meissner.
Minsky H. (1964), "Financial Crisis, Financial Systems and the Performance of the Economy", in *Commission on Money and Credit: Private Capital Markets*, Englewood Cliffs (NJ): Prentice Hall.
Modigliani F. (1944), "Liquidity Preference and the Theory of Interest and Money", *Econometrica,* 12 (1), pp. 45-88.
Nell K. and Thirlwall A.P. (2018), "Explaining Differences in the Productivity of Investment Across Countries in the Context of 'New' Growth Theory", *International Review of Applied Economics*, 18 (2), pp. 163-191.
Nelson R. and Winter S. (1982), A*n Evolutionary Theory of Economic Change*, Cambridge (MA): Harvard University Press.
Pasinetti L. (1981), *Structural Change and Economic Growth*, Cambridge: Cambridge University Press.
Phelps E. (1967), "Phillips Curves, Expectations of Inflation and Optimal Unemployment Over Time", *Economica,* 34 (135), pp. 254-281.
Phillips A.W. (1958), "The Relationship Between Unemployment and the Rate of Change of Money Wages in the United Kingdom 1861-1957", *Economica,* 25 (100), pp. 283-299.
Picketty T. (2014), *Capital in the Twenty First Century,* Cambridge (MA): Harvard University Press.
Polanyi K. (1944), *The Great Transformation*, New York: Rinehart.
Popper K. (1969), *Conjectures and Refutations,* London: Routledge and Kegan Paul.
Rawls J. (1971), *A Theory of Justice,* Cambridge (MA): Harvard University Press.
Ricardo D. (1951-1973), *Works and Correspondence*, edited by P. Sraffa, Cambridge: Cambridge University Press.
Robinson J. (1953), "The Production Function and the Theory of Capital", *Review of Economic Studies*, 21 (2), pp. 81-106.
Roncaglia A. (1975), *Sraffa e la Teoria dei Prezzi,* Rome and Bari: Laterza. English Translation (1977) *Sraffa and the Theory of Prices*, Chichester: John Wiley.
Roncaglia A. (1977), *Petty: la Nascita dell'Economia Politica*, Milan: Etas Libri. English translation (1985) *Petty: The Origins of Political Economy,* Armonk (NY): M.E. Sharp
Roncaglia A. (2005), *The Wealth of Ideas*, Cambridge: Cambridge University Press.
Roncaglia A. (2017), *A Brief History of Economic Thought*, Cambridge: Cambridge University Press.
Samuelson P. (1947), *Foundations of Economic Analysis,* Cambridge (MA): Harvard University Press.
Schumpeter J.A. (1912), *Theorie der Witrschaftlichen Entwicklung,* Munich: Duncker and Humblot. English Translation (1934) *The Theory of Economic Development,* Cambridge (MA): Harvard University Press.
Schumpeter J.A. (1942), *Capitalism, Socialism and Democracy,* New York: Harper and Bros.
Schumpeter J.A. (1954), *History of Economic Analysis*, New York: Oxford University Press.
Sen A.K. (2009), *The Idea of Justice,* London: Allen Lane.
Sen A.K. (1999), *Development as Freedom,* Oxford: Oxford University Press.
Shackle G. (1967), *The Years of High Theory: Invention and Tradition in Economic Thought 1926-1939,* Cambridge: Cambridge University Press.
Simon H. (1957), *Models of Man*, New York: John Wiley and Sons.

Simon H. (1972), "Theories of Bounded rationality", in McGuire C.B. and Radner C. (eds.), *Decision and Organisation*, Amsterdam: North Holland, pp. 161-176.
Smith V. (1962), "An Empirical Study of Competitive Market Behaviour", *Journal of Political Economy*", 70 (2), pp. 111-137.
Solow R. (1956), "A Contribution to the Theory of Economic Growth", *Quarterly Journal of Economics*, 70 (1), pp. 64-95.
Sraffa P. (1926), "The Laws of Returns Under Competitive Conditions", *Economic Journal*, 36 (144), pp. 535-550.
Sraffa P. (1960), *The Production of Commodities by Means of Commodities*, Cambridge: Cambridge University Press.
Steedman I. (1977), *Marx After Sraffa*, London: New Left Books.
Thaler R. and Sunstein C. (2008), *Nudge: Improving Decisions About Health, Wealth and Happiness* New Haven (CT): Yale University Press.
Thirlwall A.P. (1972), "An Empirical Estimate for Great Britain of the Impact of the Real Balance Effect on Income and Interest", *Southern Economic Journal,* 39 (2), pp. 213-227.
Thirlwall A.P. (1972), "The Phillips Curve: An Historical Note", *Economica,* 33 (155), p. 325.
Thirlwall A.P. (1983), "What are estimates of the natural Rate of Unemployment Measuring?", *Oxford Bulletin of Economics and Statistics,* 45 (2), pp. 173-179.
Thirlwall A.P. (1987), *Nicholas Kaldor*, New York: New York University Press.
Thirlwall A.P. (1999), "A 'Second Edition' of Keynes's General Theory", *Journal of Post Keynesian Economics*, 21 (3), pp. 367-386.
Thirlwall A.P. (1993), "The Renaissance of Keynesian Economics", *Banca Nazionale Quarterly Review*, 46 (3), pp. 327-337.
Walras L. (1874), *Eléments d'Èconomie Politique Pure,* Laussane: Corbaz. English translation (1954) edited by Jaffe W., *Elements of Pure Economics,* London: Irwin.
Wicksell K. (1893), *Über Wert, Kapital und Rente,* Jena: G. Fischer. English translation (1956) *Value, Capital and Rent,* London: Allen and Unwin.
Wicksell K. (1898), *Geldzins und Guterpreise Bestimmenden Urachen,* Jena: G. Fischer. English translation (1936) *Interest and Prices,* London: Macmillan.
World Bank (2000), *World Development Report 2000/2001: Attacking Poverty,* New York: Oxford University Press.