Pigou and Keynes as custodians of the Cambridge School of Economics

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1 Sketch of the argument

Both Pigou and Keynes had the intention of representing not just economics in Cambridge but "*Cambridge* Economics". In part this attitude was fostered by a juxtaposition with the London School of Economics (LSE). This was cultivated on both sides of the divide. On the LSE side its main economist Edwin Cannan started and encouraged many quarrels with the Cambridge rivals,[1] in the 1920ies often starting polemics particularly with J.M. Keynes as *pars pro toto* for Cambridge economics in general.[2] On the other side, in Cambridge, the economists cultivated a consciousness not to adopt an intellectual atmosphere as they perceived it to be at the LSE.[3] In fact, this juxtaposition went even back to Alfred Marshall.[4]

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1. Howson (2009, 259) writes that "Cannan, the Oxford-trained Professor of Political Economy, was notoriously critical of Marshall."

2. Collard (1990, 186): "Despite his minimal formal training Keynes seems to have shone as an orthodox and particularly clever Marshallian economist."

3. Marcuzzo (2003, 552) quotes a letter to C.R. Fay of 5 March 1935 in which Keynes defended Joan Robinson's right to lecture with the argument that otherwise "we [in Cambridge] were becoming a sort of London School of Economics".

4. Nishizawa (2006, 60): "Somewhat alarmed by the remarkable success story of LSE under Hewins's directorship, Marshall wrote to Hewins: 'while impelled to lay stress on one side of the case as to London, it seems rather hard that you should have laid stress on the other side as regards Cambridge'. Marshall then proposed the creation of a new school: 'Cambridge has an idea of its own which asserts itself…'.

Cristina Marcuzzo et al. (2008, 569)–like many others–pointed out: "the term *Cambridge school* is synonymous with Marshall's economics and endeavors." Since Pigou and Keynes were Alfred Marshall's prominent disciples it is not surprising that for a considerable time they were regarded as being exponents of Marshall's Cambridge School. But as Marcuzzo et al. (2008, 570) went on to point out, in the interwar years this "school" dissolved into a "Cambridge group", the change of generic term coming not from some new paradigm of economic cohesion but from a change of inside as well as outside perception of "Cambridge as [just, GMA] a *Place* in Economics" (authors' title and emphasis).[5]

The change just mentioned happened while Alfred Marshall's favoured disciples were in prominent positions at Cambridge: Pigou as the "Prof" of Political Economy and Keynes as the world-wide most famous (infamous for some) economist.[6] Which role did they themselves play in this development – was it their intention or their neglect? Did they or their academic entourage squander their Marshallian heritage?

A part of the answer to the questions just posed is that Pigou lost his exceptional position as main Marshallian scholar because Marshall's influence was so overwhelming that other scholars claimed expertise on the basis of their own and direct reception of Marshallian marginal analysis.[7] One illustration for this development is given by Milton Friedman (1966, 41-2) who considered his own method of research as being based on Alfred Marshall and who claimed that in effect Marshall's *Principles of Economics* anticipated the relative price theory which was used by Friedman in a way which is "extremely fruitful and deserving of much confidence for the kind of economic system that characterizes Western nations."

Invoking Friedman in the present context is admittedly somewhat anachronistic since Friedman's outing himself as Marshallian happened well after Pigou's active time. But it illustrates a development which started much earlier. An interesting earlier case of an outsider stealing the 'Marshallian wind' out of

5. This reconstruction of Cambridge economics will not find unanimous support. See the following (anonymous) internet entry: "Joan Robinson incarnated the 'Cambridge School' in most of its guises in the 20th century: as a cutting-edge Marshallian before and after 1936; as one of the earliest and most ardent Keynesians and finally as one of the leaders of the Neo-Ricardian and Post Keynesian schools." `http://www.wisdomsupreme.com/dictionary/joan-robinson.php`, visited on 16.11.2013.

6. Keynes's international fame bordered on the comical: In October 1925 the Romanian Magazine *Ideea Europeana* published a proposal for a new Romanian government with "Dr. I.M. Keynes, economic expert…" as minister of finance (Rădulescu-Motru 1925, 1). The corresponding letter from David Mitrany communicating this to Keynes is mentioned in Skidelsky (1992, 243).

7. See Stigler (1990, 12) "At the time of Marshall's death, Keynes wrote that "As a scientist he was, within his own field, the greatest in the world for a hundred years" (Keynes, 1924, p. 12). Viewing Marshall with the increased objectivity that comes from the passage of 65 years and the absence of filial obligations, I find this judgment as valid today as it was in 1924."

Cambridge Marshallians' 'sails' is associated with Lionel Robbins (1930a) from the LSE. This episode does involve Pigou directly. Using a Marshallian offer curve analysis of labour supply Robbins illustrated that in his major monographs (Pigou 1912, 593 and Pigou 1928, 83-4) Pigou had made unnecessarily restrictive assumptions about the elasticity of the conventional labour supply curve by assuming without any proof or qualification an increased labour supply at higher rates of taxes on wages.[8]

There is some irony in this episode which is strange under several aspects. One aspect is historical: 24 years earlier Pigou (1906, Appendix) himself had published a very similar graphical apparatus – with the preface of the book having a grateful acknowledgement of young J.M. Keynes's assistance. The other strange aspect is that Robbins's just mentioned analysis is in terms of an "effort price per unit of income" where the "unit of income" is the wage rate. Thus we have here the reciprocal real wage.[9] Robbins measures in these units the (scalar) value of workers' demand for goods. In other words, we have here a precursor of Keynes's wage-unit analysis in an orthodox Marshallian framework coming from the Marshall-critical LSE-camp. This in itself is somewhat strange, but so is also the later neglect of wage-unit analysis after Keynes propagated it in the *General Theory*.[10] The later neglect of wage-units analysis is strange not only because Keynes had put much stress on it in the *General Theory* but also because the point can be made that Marshall himself had quite a bit to say about labour command wage-units.[11]

A third aspect to note in connection with Robbins (1930a) is that there was no substantial comment by Pigou except that he acknowledged that it was correct,[12] adding, however, that he thought "there was no need for diagrams" (Howson 2011, 172).[13]

8. For a thorough discussion of this article see Ambrosi (2011).

9. See Robbins (1930a, 124) and Ambrosi (2011, 543, fig. 2).

10. The wage unit analysis was never accepted as being a useful tool of analysis by Joan Robinson or by post Keynesians. This is well documented in Bradford and Harcourt (1997) for the case of Joan Robinson.

11. See Persky (1999), but: "Marshall's comments in this vein are quite fragmentary and hardly amount to a complete argument." (257) The almost total disinterest in wage unit analysis may be also inferred from the absence of any reference to it in the erudite *History of Economics* volume edited by Samuels, Biddle, and Davis (2003). There is just a parenthetical note that in the *General Theory* income and consumption were measured in wage units (417)–but what about investment, one is tempted to ask.

12. Howson (2011, 172) "When the article appeared Pigou wrote on 16 June [1930, GMA] from his holiday cottage in the Lake District that Robbins had misunderstood his argument. He did not disagree, however, with Robbins's analysis…"

13. As already noted, Pigou (1906) himself did use a very similar diagram, the genealogy of geometrical offer curve analysis of labour supply extending to Alfred Marshall himself. Howson (2011, 172) comments this point with: "Contrary to Pigou's view of the diagrams [in Robbins 1930a, GMA] the paper became famous for their illustration of a 'backward-bending' supply curve for labour…". In a footnote she adds: "Its several reprintings include those in the AEA Readings in the Theory of Income Distribution (1946) and An Anthology of Labor Economics,

Pigou's reaction gives – and maybe it was meant to give – the impression that Robbins's piece is a mere trifle since Pigou could easily amend his former statement about the labour supply curve, thus abolishing the basis for Robbins's criticism. But the interesting point is not that there are peculiar statements about labour supply but rather that at the high time of Marshallian *Cambridge* economics there was this ingenious application of Marshallian methods by Robbins, the Cambridge outsider residing at the LSE.[14]

These reminiscences are not meant to belittle the fact that Pigou made considerable advances over Marshall in the field of welfare theory and that he consolidated the Cambridge economic and philosophical tradition in important ways. This view has recently been emphasised repeatedly in the course of commemorating the centenary of the publication of Pigou's *Wealth and Welfare* (McLure 2012). But in an operational sense Pigou's Marshallian advances obviously were not sufficient to consolidate a Cambridge centred Marshallianism. A cultivation of a Marshall-Pigou tradition was just not supported by a sufficient number of economists at the geographical location that once stood for the Marshallian school. Was this disengagement with the Marshallian tradition due to Keynes? After all, it was he who repeatedly denounced the "classical school" in the *General Theory*.

As already mentioned, one reason why in economics the term 'Cambridge' ceased to stand primarily for the Marshallian School was that Marshallian methods became 'global'. The wide-spread acceptance of marginalism in economics severed its primary association with Marshall's academic home but eventually also with Marshall himself. This development might be seen as being related to Keynes's criticism of the Classical School in the *General Theory*. But that is not plausible. In fact, the *General Theory* abounds with allusions to marginal analysis in the Marshallian tradition.

Keynes himself repeatedly stressed that his seemingly novel concepts were re-shuffled orthodox ones.[15]

An additional factor which might have weakened the continuation of prominence of a Cambridge School of economics was that unlike Marshall, Pigou did not have a dedicated local 'academic entourage' and he disliked administrative committee work. Hence he had few helpful Cambridge combatants for an own cause–if there was an own epistemic or paradigmatic 'cause' which Pigou wanted to see realised. To the young Lionel Robbins, Pigou, as member of

eds. Ray Marshall and Richard Perlman (1972)." Further aspects of the reception of this article are discussed in the already mentioned article by Ambrosi (2011).

14. In his obituary for Robbins, O'Brien (1988, 106) referred to Robbins (1930a) as "the celebrated article on the elasticity of demand for income in terms of effort" and praised "this ingenious employment of the Marshallian elasticity tool".

15. *General Theory*, Ch. 8,I (89): "The aggregate supply function…involves few considerations which are not already familiar." Similarly, Keynes writes that it is an "aspect of [orthodox, GMA] time-preference which I have called the *propensity to consume*" (*General Theory*, Ch. 13,II, (166) his emphasis).

the Committee of Economists in 1930, appeared as being a "Lofty old woman. Could not keep papers in order" (Howson 2011, 192). But this was a special situation, and Robbins was maybe biased against the Cambridge 'Prof'. But Pigou himself articulated the problem of a weakened will to pursue an own line of research due to concern for the overbearing old master. There was not really a perceived need for combatants since the monumental Alfred Marshall stood for himself. As Collard (2006, 594) observed: Pigou "was certainly no academic 'empire builder' ".

One might want to debate the reasons or even the truth of Pigou's lack of an own following at Cambridge. Pigou's style of research was mostly reclusive, but it was not exclusive. Pigou (1906) mentioned Keynes as his collaborator in taking up Alfred Marshall's hints at an "offer curve" approach to labour market analysis.[16] There was also a question of personality. If we compare Pigou with Edwin Cannan of the LSE, it is remarkable how very much more the latter was able to solicit statements of scholarly affection and declarations of enthusiastic discipleship.[17]

The (potential) shortcomings just listed with regard to Pigou were not shared by Keynes. He was by no means too timid, or too respectful towards authorities, as not to fend for the acknowledgement of his status as a new-fashioned monetary theorist in the "Cambridge" tradition. Eventually, Keynes presented himself as a revolutionary, but as one who emerged from the "Classical" tradition, hence his claim to have a *General Theory* of employment etc. and not an "Anti-Theory". But he, too, was not successful as custodian of his envisaged version of a re-defined Cambridge *School* of economics.

There can be much debate about Keynes' ideal of a new Cambridge School. But Keynes did not want to see the cultivation of a "Keynesian school". His intention was to see a re-defined paradigm of a *Cambridge* economics with a broader basis than just his person. His re-invented Cambridge School should not perpetuate an old orthodoxy. It should rather incorporate it as a "special class". Hence, of course comes the title of Keynes's *General Theory*. But he was eager to proclaim the beginnings of his new economic paradigm as lying not in his own teachings but in those of the erstwhile Cambridge student Robert Thomas Malthus (Keynes 1933).

In Cambridge neither Pigou nor the Cambridge Keynesians were prepared to follow Keynes on the road of re-tracing their economic roots to a re-interpreted Malthus on whom Keynes wanted to graft his *General Theory*. In the end, the spirit of old Marshallian marginalism took residence all over the globe but did not have much of a home at Cambridge any more while Keynes's 'disciples' did their utmost to cultivate the analytical heritage not of Malthus but that of–

16. Further examples of co-operation are given by Collard (2006, 594) and by Knight and McLure (2012).

17. Compare, e.g., the passages on the respective lecturing in the obituaries by Robbins (1935) for Cannan and the one of Champernowne (1959) for Pigou.

what Keynes considered to be–his analytical antipode David Ricardo. It can be argued that this is the reason why the term "Cambridge" ceased to be regarded as standing for a paradigmatic School of Economics, but why it rather became just a *place* for doing several varieties of economics.

2 'It is all in Marshall'

Under the heading of this section one could collect several manifestations of Cambridge economists' awe for Marshall's economics. This attitude lead to an excessive respect for the existing analysis as an orthodox doctrine and to a self-belittlement of own research among younger economists in the Marshallian tradition. In this context it is particularly interesting to have a closer look at Frederick Lavington (1921), an author of whom Schumpeter (1954, 1084) correctly wrote that he was "unconditionally Marshallian". Maybe it was he in particular whom Pigou thought of when in his presidential address he assessed the "good" and the "bad" effects of "the Marshallian dictatorship" (Pigou 1939, 220). With regard to the bad effects Pigou mentioned that

> The activity of others besides novices was limited by reverence for the master. What was the use, for example, of anyone working at Money, when we knew that in his [Marshall's, GMA] head, if not in his drawer, there was an analysis enormously superior to anything that we could hope to accomplish? This attitude cannot but have checked enterprise and initiative [in scholarly research, GMA].

It is astonishing how near Lavington came to Keynes' (1936, ch.17) much later discussion of "liquidity preference" when Lavington (1921, 33-4) wrote:

> "[1] First,... the individual's demand for money is expressed and satisfied in just the same way as his demand for ordinary commodities; he distributes his resources in such a way as to satisfy each need down to the same level of urgency."

We see here the formulation of an equimarginal rule in the context of the demand for money. Lavington continues with claiming

> [2] Secondly, that the sum of these individual demands constitutes the total demand for money. [3] Finally, that this total demand contains a peculiarity found only in the theory of money

Point [1] anticipates Keynes' (1936, 227-8) equimarginal rule that "in equilibrium the demand-prices for houses and wheat in terms of money will be such that there is nothing to choose", namely between the assets or goods in general – under express consideration of the (in this case: marginal) "liquidity premium" on money "l_3". In both cases (Lavington's as well as Keynes's) there is then –

what we may call – a 'choice-equilibrium' by which one can explain the holding of a specific amount of money. Lavington's next point, numbered '[2]' by us, then stresses that the total demand for money must be seen as being based on *this* micro-foundation, namely on (what we just called) individual 'choice-equilibria'. This explicit microfoundation anticipates Keynes's demand function for money and for the other structural equations of his theoretical model.[18]

As far as Lavington's further point is concerned, nr. '[3]' above concerning the "peculiarity" of money, there again we have a close correspondence with Keynes' later analysis. In section III, ch.17 of the *General Theory* there are lengthy considerations of the point "that the kind of money to which we are accustomed has some special characteristics" (Keynes 1936, 229).

The just listed points of agreement are remarkable. But if Keynes had in many respects a very similar approach as Lavington, the slavishly orthodox Marshallian, why then did Keynes cultivate such an iconoclastic presentation of his own theory? This seems to be the point of Robertson's (1936a, 97, n.1) confronting Keynes with Lavington's above-quoted passage [1]. Similarly, Robertson (1936b) wrote to Hicks:

> I really do find the notion that the concept of "liquidity preference" as a function of business expectations is "revolutionary" (p. 8 [of Hicks's manuscript, GMA]) too fantastic for words! On the contrary, it seems to me that Keynes' formulation of the concept is definitely retrogressive…

Obviously in sympathy with Robertson, Mizen and Presley (1998, 7) write

> So the idea of liquidity preference is shown to have had its roots in Cambridge monetary theory before *The General Theory*. His conclusion was vital to the main thesis that "revolution" was too strong a term for the Keynesian contribution, since the neoclassicals had certainly mentioned the concept in their writings.

Indeed, in the *General Theory* Keynes never acknowledges Lavington as being in part a precursor for his own new theory.

The crucial difference between Keynes and Lavington is that Lavington did not dare to depart from Marshall's theory that time preference ("waiting") determined the rate of interest. This blocked him – and Pigou as well – from seeing the rate of interest on money as price (opportunity cost) for staying liquid. Marshall. Lavington, Pigou – they all saw the rate of interest as the price for consuming not now but in a next time period. But, as Keynes (1936, 174) put it in the *General Theory*: "interest has been usually regarded as the reward

18. See, in this vein, Hoover (2003, 416): "In The General Theory, Keynes rationalized the key aggregate relationships such as the consumption function and the investment function with reference to individual behavior. In *The Keynesian Revolution* (1947), Klein emphasized the desirability of securing the microfoundational underpinnings of each of these functions."

of not-spending, whereas in fact it is the reward of not-hoarding." We may contrast this with Lavington's detailed presentation of the Marshallian position, summarising it as (Lavington 1921, 79-80):

> the act of Waiting is an act of postponing consumption. . . ; its product is a supply of capital. . . The use of this capital introduces two distinct economies; it increases the efficiency of consumption. . . ; it increases the efficiency of production. . . ; in each use it yields a net gain of utility which is the source from which interest is paid.

It is not that Marshall's theory of waiting is wrong in the sense that the rate of interest does not measure time preference. The time preference theory of interest can be shown to be perfectly right – but this requires very special conditions as there are: parametrically given time preferences, a stationary economy, an indefinite time horizon.

But a stationary "long period" economy is a "frozen land" as Keynes (JMK, XIV, 238) was later to write in an intended, but unfortunately never published, part of a comment on Pigou (1937).[19] It means that there is not net investment and no savings in the sense of accumulation. Indeed, the rate of interest is such as to keep the agents of the model from spending more than their current income. Thus there is an interest rate without interest payment. It is tedious to work this out but the corresponding model can be stated with algebraic precision.[20] But such a 'frozen land'-model has little relevance for situations this side of heaven. But the same model with given income expectations and with a finite time horizon generates just a consumption function as stated by Keynes.

Thus, in a sense, it can be said that Keynesian analysis as well as the Pigovian one is in most parts a manifestation of analytical elements which indeed all were already "in Marshall".

3 In search for the fault lines

In recent years several accounts have been published of the development of Keynes's economic thinking. There is the very informative book by Gilles Dostaler (2007) about Keynes's "battles". But on no page of that book is there any reference to Edwin Cannan, the chief economist of the LSE and to the many 'battles' which Keynes had with Cannan during the 1920ies and the beginning 1930ies. This is the same with the book by Toshikai Hirai (2007).

We also have the most informative article by Susan Howson (2009) about "Keynes and the LSE Economists" where Edwin Cannan does appear several times, albeit with only one literary reference, namely to Cannan (1929). Howson

19. See fn.26 for further details.

20. See Ambrosi (2003, ch.15.4: Excursus on time preference, 179-199) and Ambrosi (2008, Appendix B)

carefully defined the perspective of her enquiry in such a way that it is perfectly understandable that Cannan appears only in the backdrop of the events. But I think we understand the academic context of the Cambridge School better if we also focus the rival LSE with its team spirit and with its concerted effort to stand against Keynes. The direct antagonist and also the spiritual 'team leader' in these exchanges was Edwin Cannan as should emerge from the following table 1.

Table 1: Edwin Cannan and Keynes' controversies

Year	Issue	Antagonist	Source
1922	International Credit	Cannan	Keynes 1919, Cannan 1922,
1923	*Tract on Monetary Reform (Keynes 1923)*		
	Monetary Reform	Cannan	Cannan 1923
1924	Monetary Reform	Cannan	Cannan 1924a, Keynes 1924a
	Monetary Reform	Cannan	Cannan 1924b, Keynes 1924b
	Unemployment	Cannan	Keynes 1924c
1927	Unemployment		Pigou 1927
	Treatise on Money (Keynes 1930)		
1930	Free Trade	Cannan School	Macmillan Committee, **Gregory**
	Free Trade	Cannan School	Committee of Economists, **Robbins**
	Free Trade	LSE[21]	Cannan 1930, Keynes 1931
	Marshall *vs* Wicksteed		Robbins 1930b
	wage model		Robbins 1930a
1932	wage model		Hicks 1932, Keynes 1932a
	Saving and Wealth	Cannan	Cannan (1932a), Keynes 1932b
	Unemployment	Cannan	Cannan 1932
1933	"…Malthus–The First of Cambridge Economists" (Keynes 1933)		
	Unemployment	Pigou	Pigou 1933
1936	*The General Theory* (Keynes 1936)		
		Pigou	

In three columns table 1 depicts "issues", "antagonists", and "sources" for the stated debates of issues over the years leading up to the publication of the *General Theory*. The two theoretically important prior publication of Keynes', the *Tract* of 1923 and the *Treatise* of 1930, were invariably met with Edwin Cannan's polemical reactions as may be gathered from the table.

21. Beveridge (1932), director of the LSE 1919–1937 edited and organised a compilation of the LSE side of this debate. For the co-ordinated LSE-approach in the conception of this book see Howson (2011, 193) "Lionel [Robbins, on 24 Oct. 1930, GMA] dined … with Beveridge, Plant, Walter Layton and Sir Arthur Salter, in order, according to Beveridge, 'to talk Tariffs'. Beveridge suggested they form a committee of economists to prepare and publish a study of the whole tariff issue; the next day he was writing 'heads of [a] Tariff Book'. When the group met again on 29 October for dinner at LSE it also included Benham, Bowley, Clay, Gregory, Hicks, Robertson and Schwartz. They agreed to produce a book ... of faith in Free Trade".

Maybe Keynes did not expect anything else, knowing Cannan's decidedly anti-Cambridge attitude. But Keynes believed that with his *Treatise on Money* (1930) he had established a method of analysis which was useful for political advice and convincing for his academic colleagues. It was with this attitude that in July 1930 he took over the chairmanship of the "Committee of Economists", installed by Prime Minister Ramsey MacDonald. Keynes himself formulated the brief for 'his' committee as being (Howson and Winch 1977, 359):

> To review the present economic conditions of Great Britain, to examine the causes which are responsible for it and to indicate the conditions of recovery

He was convinced to be able to fulfill this task with his committee members H.D. Henderson, his academic colleagues A.C. Pigou and Lionel Robbins, and with the Bank of England's Sir Josiah Stamp. But in the course of this committee work Keynes found out that in fact he could not convince a single one of them when he tried to bring into the debate his then budding ideas about effective demand.

The opposition experienced by Keynes in his committee work in 1929-1930 was conducted not by Cannan any more but by other main antagonists (Robbins, Gregory). But in substance the latter put forth arguments stemming from and reformulated by the self-same Edwin Cannan. One particularly persistent and frustrating counter-argument against Keynes was the desirability of free trade in the face of the Great Depression. In Clarke's (1988) account (p.208) the situation in the Macmillan Committee (1930-31) with regard to Gregory was:

> As a Free Trader, his [Gregory's, GMA] considered view was that 'to embark upon a regime of tariffs and to refuse obstinately to face the question of costs are both undesirable'.[22]

When confronted with the pragmatic argument, put forth by the trade union representant Ernest Bevin, that 'no informed body with the facts of the matter before them would recommend a reduction' of money wages, Gregory declared:[23]

> *Gregory*: That depends purely on the premises with which we start. As at present constituted, the central bank is not in a position to bring pressure on the wage level.
> *Bevin:* It can create unemployment.
> *Keynes:* It does help to create unemployment by damping down enterprise.
> *Gregory:* May I leave that on one side. If we want to restore equilibrium in the economic system one has either to face a reduction

22. Source given by Clarke (1988, p.208 n.36): 'Macmillan Report, Cmd. 3897 (1931), 218 (Addendum III by Gregory).'

23. Source given by Clarke (1988, p.208 n.37): 'Private session, 20 Nov. 1930, 30-1'.

> of wages or say that wage reductions are not necessary and try and provide some alternative–my own feeling being that wage reductions are probably necessary but that a greater elasticity of wages is most undoubtedly necessary.

Gregory adamantly stood by the position of advocating unadulterated free trade and of maintaining that downward wage changes were 'most undoubtedly necessary' in the face of the Great Depression.

4 R.T. Malthus–'First Cambridge Economist'?

Shortly after the concerted assault by Edwin Cannan's LSE-disciples against Keynes' budding ideas about effective demand, and after realising that no intellectual support was to be expected from Pigou, Keynes (1933, 100-1) proclaimed:

> If only Malthus, instead of Ricardo, had been the parent stem from which nineteenth-century economics proceeded, what a much wiser and richer place the world would be to-day! We have laboriously to re-discover and force through the obscuring envelopes of our misguided education what should never have ceased to be obvious. I have long claimed Robert Malthus as the first of the Cambridge economists;

This and a number of similar statements of his about Malthus seem to me to be Keynes' programme of what the Cambridge School of Economics should become if the competition with the rival LSE was to bear fruits for the development of economic thinking.

In reviewing this passage, Schumpeter (1933, 653) understood Keynes' intention quite well and commented

> Malthus as an economic theorist–and as distinguished from Malthus the Malthusian–has never had his due. But here [in Keynes 1933, GMA] he seems to be getting rather more than full measure, some of it by way of a discussion of his anti-saving views, which reads like an *oratio pro domo* of his eminent biographer.

But as far as I know about Pigou, he kept gentelmanly silent about such seeming extravagance on the part of Keynes.

Nevertheless, an even more enthusiastic version of a Malthus-invoking *pro domo* text was delivered on the occasion of Malthus' centenary at Cambridge when Keynes (1935) proclaimed:

> Malthus's. . . far-reaching *Principle of Effective Demand* have been forgotten. Let us, however, think of Malthus to-day as the first of the

> Cambridge economists... Malthus approached the central problems of economic theory by the best of all routes.

In very similar terms as the ones which Keynes used in connection with remembering Alfred Marshall as a great economist, Keynes (107-8) described Malthus's allegedly exemplary route to economic theory as having been to proceed:

> from being a caterpillar of a moral scientist and a chrysalis of an historian, he could at last spread the wings of his thought and survey the world as an economist!... I believe that... here in his Alma Mater, we shall commemorate him with undiminished regard.

Hirai (2007, 100-1) has argued that "Keynes does not use the term 'effective demand' in the same sense as Malthus does." He concludes "Thus we may therefore reasonably conclude that the direct influence of Malthus upon Keynes's thinking was rather limited." But I believe that this evaluation misses the point of Keynes's invoking Malthus. Keynes wanted to change the paradigm of economic thinking from abstract relative price orientation to concrete, but theory-based, turnover orientation.[24] He saw the manifestation of such a juxtaposition in the Ricardo-Malthus exchanges which he relates in the publications just listed and again in the *General Theory*.

The text-historical details of Malthus' argumentation about effective demand cannot concern us here. But for every great ancient economist, be it now Adam Smith or David Ricardo, there seems to be unending possibilities for interpretation and re-interpretation. Until this very day we debate about the details of Ricardian economics, especially after Piero Sraffa (1960)–after a long gestation period–published his neo-Ricardian interpretation. It is imaginable in principle that one could have likewise followed Keynes' plea to re-consider Malthus. As Sraffa pondered over decades how to make Ricardo more sophisticated than he was, so one could have done with Malthus in striving towards a refined Malthus-type paradigm of effective demand in the light of Keynes' retrospective vision of Cambridge economics.[25] But my statement just made is in subjunctive form, and there is no correspondence in a present form. What seemed possible in imagination was really quite impossible in the reality of the scenario of Cambridge economics after Keynes (and Pigou) were not in the limelight any more. By the latest when Joan Robinson became full professor at Cambridge in 1965, Marshallian roots were cut totally, and not just re-interpreted as in the case of much of Keynes's theorising.

24. Cf. Breit (1987, 830): "It is my contention that the secret of Ricardo's success lies in his style, not in the reality of a world well-described by him."

25. Keynes (1936, 32) was quite clear that Malthus's effective demand-paradigm needed a modern elaboration: "Malthus was unable to explain clearly (apart from an appeal to the facts of common observation) how and why effective demand could be deficient or excessive". Keynes understood his own theory as doing just that.

Keynes's pleas against Ricardian economics were dimly remembered at Cambridge in the seemingly promising new era of post-Keynesian economics. But simultaneously they were discarded, and this with great emphasis. In this vein Joan Robinson (1978, 14) proclaimed:

> Keynes evidently did not make much of it [i.e.: Sraffa's version of Ricardianism, GMA] and Sraffa, in turn, never made much of the General Theory. It is the task of post-Keynesians to reconcile the two.

The way ahead which Joan Robinson (18) described in 1978 but which was her aim much earlier was:

> to bring the insights of Marx, Keynes, and Kalecki into coherent form and apply them to the contemporary scene, but there is still a long way to go

Now, 35 years after Joan Robinson (1978) and 53 years after Piero Sraffa (1960) we may ask: "what has remained of Sraffa and neo-Ricardianism" ? The answer which we read in a recent Marxist 'companion'-publication is: "Not much". But paradoxically Savran (2012, 258), the author of this widely agreed negative assessment, continues:

> However, one should not neglect the present-day alliance between neo-Ricardianism and post-Keynesianism. The latter school rejects the neoclassical bases of what Joan Robinson once called 'bastard Keynesianism', that is, the so-called 'grand synthesis' in the post-war period between Keynesian macroeconomics and neoclassical microeconomics. In this, post-Keynesianism is surely comforted by the existence of an alternative value theory whose lineage can be traced back to Sraffa. It is no small irony to see that Keynes, who, in his own *opus magnum, The General Theory*, set out to demolish Ricardianism, should finally come to owe the independence of his theory from neoclassicism to neo-Ricardianism.

This documents quite well a strange "post-Keynesian" nihilism against anything the Cambridge School once stood for, both, in its Marshall-Pigou version or in the version of Malthus-(Marshall)-Keynes.

Let us remember that Keynes once called for "undiminished regard" for Malthus. Keynes's vision was that future generations of Cambridge scholars would "spread the wings" as world-wise economists in an enlightened and re-interpreted Malthusian spirit. But let us also remember that Karl Marx ([1863] 1968, 414) proclaimed (emphasis in the original):

> *Utter baseness* is a distinctive trait of Malthus–a baseness which can only be indulged in by a parson. . . The "baseness" of this mind

> is also evident in his scientific work. *Firstly* in his shameless and mechanical *plagiarism*. *Secondly* in the *cautious*, not *radical*, conclusions which he draws from scientific premises.

To this reader of such lines from Karl Marx it is unimaginable that much fruitful thought could come from 'marrying Keynes and Marx'. If we take their respective visions of Malthus as a proxy for their respective paradigms, it would be a marriage of a toad of "utter baseness" with the eagle with the spread wings of world-wise economics. The difference in perspective on one and the same economist could scarcely be greater. In the past decades nobody has bridged this difference in paradigms and it is unwise to send young generations of aspiring researchers in economics to make such an attempt.

I think it is a tragedy that some of the sharpest minds of post-Keynesian economics were occupied with a "long period" analysis of which Keynes (JMK, XIV, 238) wrote

> the long period. . . relates to a frozen land remote in its characteristics from all experience.

It is remarkable that R.F. Kahn urged Keynes not to publish this damning characteristic. But Kahn's position is understandable: his co-'Keynesian' Joan Robinson (1936) saw her vocation in extending Keynes's analysis into the self-same "long period" which Keynes thought to be utterly sterile for the intellectual mastering of real economic political problems. It is unfortunate that Keynes at that time gave in to Kahn and never again returned to this topic.[26]

5 'Effective Demand'–The missed synthesis

As Waterman (2003, 561) observed:

> [The] aggregate production function of "food" in the agricultural economy assumed by Malthus and Ricardo [was]:
> $$F = F(N), \qquad F' > 0, \qquad F'' < 0.$$

Thus we have here a common branching point for the two antagonistic paradigms in the form of what now is known as the (well-behaved) neoclassical production function with decreasing returns for labour. But Waterman (562) continues by claiming: "The concept of a diminishing-returns aggregate

26. Concerning Keynes' "frozen land" metaphor see Victoria Chick's (2008, 279) complaint that the "rhetorically useful phrase 'frozen land', was suppressed (at the urging of Kahn!, see CW [=JMK] XIV : 260) in Keynes's published note (1937, CW [=JMK] XIV: 262-5), and so the debate between Keynes and Pigou about the methodological framework of economics was never joined." This remarkable episode involving Keynes, Kaldor, Pigou and Kahn as intellectual 'go-between' (or its opposite in the case of Kaldor) is more fully described in Ambrosi (2003, ch.15, 165-177)

production function, so illuminating when applied to the Malthus-Ricardo doctrine of rent, is less helpful in the M[athematical] M[odeling] of other aspects of classical political economy."

One of the modeling problems is that much of the newer Ricardian exegesis laid stress on disaggregating the production process. In this respect "perhaps the most widely known and discussed" model (563) is the disaggregated linear technology model of Sraffa (1960) so that this Cambridge-based economist can be seen as the figure-head of the Cambridge Ricardianism which Joan Robinson postulated to be the fruitful match for Keynes's (effective demand) theory, as was seen above.

But if disaggregation of the production process is the main desideratum, then Pigou (1933) would do as well since his analysis is based on a two-sector model, discerning the production of "wage-goods" (mainly for workers) from that of "non-wage goods" for the recipients of non-work income. In any case, it is Pigou's (1933) model which Keynes scrutinises as paradigmatic 'real' (non-monetary) "classical" model (*General Theory*, ch.19, Appendix, 272-279). It will be remembered that Keynes thought that it was "profoundly frivolous" that Pigou (1936) did not react in any substantive way to Keynes's reconstruction of Pigou's (1933) model "about which I took great care, which is solely devoted to his argument" (JMK, XIV, 87). But this 'frivolity' was not only Pigou's.

From the standpoint of Cambridge Economics as a (potential) school of fruitful economic theoretical debate it is indeed to be deeply regretted that neither Pigou nor Keynes's Cambridge confidants (Kahn, Robinson, Sraffa) took his Pigou-Appendix seriously and as a basis for further intellectual exchange. As Keynes expressly pointed out, his own wage unit analysis may be taken as a variant of Pigou's formulations (or *vice versa*).[27] It is Pigou's very own (Marshallian) marginalist analysis which is the basis for Keynes's (1936, 55-5,n.2) famous and allegedly incomprehensible claim that it is possible to construct linear supply functions in terms of wage units "for each individual entrepreneur"; that these functions then "can be summed for the entrepreneurs as a whole"; that this gives an aggregate supply function in terms of wage units "Z_w" "with a slope given by the reciprocal of the money-wage [share, GMA]". All this has been clarified lately by Mark Hayes (2007) and–the point about the wage share–by this author (Ambrosi 2010). But these are pieces of explanation which should have come forth in the Cambridge of 1936-7, and not more than seventy years later.

If, however, the important issue is not just to model sectoral disaggregation and labour demand analysis but also the disaggregated production of net output and of re-investment output for the replacement of used-up inputs ('coal', 'machines'), then again Keynesian wage unit analysis can be useful. Ironically, this has not been tried in old-Cambridge based debates but by the Cambridge,

27. Keynes (1936, 273): Pigou's (1933) "$F(x)/F'(x)$, being the value of the output of the wage-goods industries in terms of the wage-unit, is the same as my C_w."

Mass., based Paul Samuelson (1983) in a reconstruction of a Marxian model.[28] Joan Robinson's (1937) 'long period' extension of Keynes's employment determination model can very well be formulated in terms of wage units as this author has shown (Ambrosi 2003, ch.21, 275-286). If the desired result of her modeling is a *locus* showing a trade-off between the rate of profit and the share of wages, then this result can very well be generated on the basis of "classical" Cobb-Douglas functions and marginal-product remuneration (see fig.23.1, 312). One does not have to condemn "classical" analysis in order to be able to generate Joan Robinson's desired results. In fact, in contemplating Joan Robinson's style of economic analysis one can very well agree with Harcourt (1996, 317)

> But when we look at the *substance* of her analysis... we find her Marshallian, even Pigovian, background tending to break through. (emphasis in the original, GMA)

In the context of allocation and labour demand the Pigovian background is a long period one, however, and Keynes' condemnation of that analytical perspective should be clear by now. By implication, this condemnation applies also to Joan Robinson's theorising.

Our prospecting for the *differentia specifica* of what Keynes could have considered to be the paradigmatic "classical" or "orthodox" economic approach has not produced convincing results. Questions of sectoral disaggregation or of 'industrial reproduction' in the sense of re-investments could be modeled in several ways and, if needed, also in "classical" ways. Over none of these question needed there to be a break-up of the traditional Cambridge School. We thus could return to the starting point at the beginning of this section, the neoclassical production function. The modifications of this common basis of Ricardian and Malthusian economics which were discussed so far did not appear to be particularly divisive. So: in which way is the above-mentioned production function a *branching* point?

In view of this question we propose now to re-start by focussing on Keynes's topic *The General Theory of* EMPLOYMENT. Keynes knew, of course, that for his adversary of many years, Edwin Cannan, the employment problem was banal: raise prices and / or lower wages and other factor costs, then employment *must* increase. Keynes as editor of the *Economic Journal*, was, of course, well

28. Samuelson (1983, 171) "Here is the correct way for me to write Marx's ideosyncratic 1867 version of his tableau, for the coal-corn-caviar technologies, the corn-subsistence wage, the capitalists' penchant for caviar, and with my numeraire defined in terms of wage units."
The reference to Samuelson leaves unaffected the fact that Joan Robinson was perfectly right that in terms of consumption goods there are no (easily) differentiable aggregated production functions as is well explained by Harcourt 1972. But this is a subject from the theory of capital. The story would look differently if the unit for aggregation is not the price of consumption goods but that of the capital services–an analogy to wage unit analysis which nobody seems to have tried so far in a published version.

aware that on the pages of 'his' journal he had to publish the presidential allocution which Cannan made as President of the Royal Economic Society. In the face of the protracted deflation of his time Cannan (1932, 369-70) proclaimed:

> "What is to be done if the world is too stupid to prevent great declines of price-level?"... Money-wages and salaries should be allowed to be reduced without resistance to the reductions being backed by the State and public opinion.

Thus, the 'state of the art'-remedy for price deflation in the year 1932 was: deflate wages even more–and suppress complaints about it! Thus is the iron logic of real wages-determined employment.

Now Edwin Cannan liked provocative statements, but his students praised him for his 'common sense'. It is fully within this 'common sense'-logic that Pigou 1933 wrote his *Theory of Unemployment*.

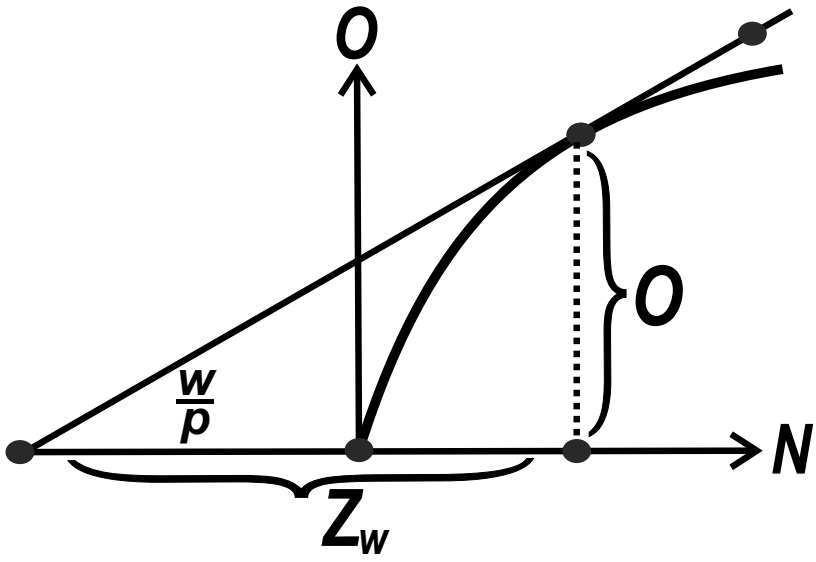

Figure 1: Pigou vs. Keynes: real wage (w/p) vs. effective demand (Z_w)

It is this seemingly compulsive logic of real wages-determined employment against which Keynes had to argue with his 'new' or 'neo-Malthusian' concept of effective demand. But this does not mean that he negated that there is a relation between employment and real wages. Quite to the contrary, he emphatically proclaimed (GT, 17)

> In emphasising our point of departure from the classical system, we must not overlook an important point of agreement. For we shall maintain the first postulate as heretofore, subject only to the same qualifications as in the classical theory;

It cannot be emphasised enough that Keynes totally accepted the doctrine "*The wage is equal to the marginal product of labour*" (GT, 5, his emphasis).

The crucial and controversial issue between Keynes and the Classics was not one of economic relations but one of economic causation. Put in symbols: if $\frac{w}{p}$ is the real wage, O is output, and N is employment, then the 'economic common sense' was as expressed by (1 a) , whereas the Keynes-Malthus view was as expressed by (1 b)

$$\text{a) Cannan, Pigou}: \ \frac{w}{p} \Rightarrow \ N\&O \quad ; \quad \text{b) Malthus, Keynes}: \ Z_w \Rightarrow N\&O \qquad (1)$$

This seems to be a dramatic difference. But since $Z_w \equiv \frac{p}{w}0$ it follows that O/Z_w gives the self-same real wage as the marginal analytic tangent to the production function as drawn in the figure. Keynes' Z_W-function, the lynch-pin of effective demand analysis, can be seen as a thoroughly marginalistic concept so that in principle nothing would have prevented Pigou to accept Keynes' analysis–and the Cambridge School could have continued in unison for ever after.[29]

6 Concluding remarks

The guiding question of this article concerned the change of Cambridge from a 'School of Economics' to a 'place with some economists'. This change seems to have begun at the time when Pigou and Keynes were still responsible for economics at Cambridge. Was Keynes the 'spirit of discord' who, for the sake of own aggrandisement, ruined the inheritance of the Cambridge School which Marshall had bestowed upon it and which Pigou tried to preserve?[30] In an informative article on "Keynes and the Cambridge School" Harcourt and Kerr (2003, 343) write:

> *The General Theory* emerged as a reaction to the system of thought, principally associated with Alfred Marshall and A.C. Pigou, on which Keynes was brought up ... Keynes rationally reconstructed the classical system by setting out what, though it could not be found in the writings of any one "classical" economist, must have

29. The above might be compared with Collard (2013, 11): "Pigou's work was a convenient piece of clutter which was easily demolished. This left the way clear for the radical new approach based on effective demand. If unemployment was to be explained at all it had to be by the new method." This author has argued that Pigou's model of labour demand is a quite sophisticated neoclassical two-sector model and that Keynes, in the Pigou-Appendix, introduced only slight modifications in his re-interpretation. See Ambrosi (2003)), p.67, fig.9.1 for the Pigou-model and p.100, fig. 10.3 for the corresponding Keynes-amendments.

30. Pigou (1936, 115): "Einstein actually did for Physics what Mr. Keynes believes himself to have done for Economics... The general tone *de haut en bas* and the patronage extended to his old master Marshall are particularly to be regretted."

> been assumed and developed if sense were to be made of their attitudes and claims.[31]

These remarks from the beginning of their enquiry may serve here for some concluding reflections on the fate of the Cambridge School under the influence of the direct disciples of Marshallian economics.

It is helpful that the just quoted authors do stress that Keynes's system is indeed a rational reconstruction of the system of thought of the Cambridge School as it existed up to Keynes's time and as represented in the writings of Pigou. Indeed, we have testimonials from exponents of the orthodox Marshallian camp (Robertson in particular) to the extent that Keynes said nothing fundamentally new. But if that is the case, there is the puzzling question why orthodox Marshallians refused to subscribe to Keynes's reformulation of their own beliefs.

An answer to this question can be constructed from two components: the orthodox camp insisted that 1) it is relative prices ("the real wage") which steer economic activity and that 2) the appropriate context of economic theorising is the stationary state. The *locus classicus* for the emphasis on these points is Pigou (1937).

Pigou's (1937) article is crucial in several senses. 1) It documents the frivolous "frozen land"-assumption (to use Keynes's–unfortunately unpublished–characterisation) which was, of course, not Pigou's particular invention but the requirement of a logically correct classical model. 2) The surviving communications between R.F. Kahn and Keynes about this article (JMK, XIV, especially 260-61) showed the similarly frivolous criticism of Pigou by Kahn in that Kahn believed that time preference as such was Pigou's 'gross error'[32] (for details see Ambrosi 2003, Part III, (161-265)). 3) The promise by Kahn that "we could all of us write replies to Pigou [1937]" proved to be utterly empty–if "all" was meant to embrace Kahn himself, Joan Robinson and Piero Sraffa. None of them ever wrote anything against Pigou (1937) or against Pigou (1938). 4) Unfortunately Kahn got Keynes to cut out the "frozen land" metaphor for Pigou-type long period classical analysis (Keynes: "But I still believe that it represents something at the bottom of his [Pigou's] heart." JMK, XIV, 261). The misfortune in this case is not just that a point of criticism against Pigou was thereby suppressed. Even more unfortunate is that Cambridge post-Keynesians could foster for decades the belief that transposing Keynes's analytical programme into the 'long period' was a valid research programme for their 'Cambridge economics'. The absurd outcome was that the 'new Cambridge eco-

31. But the authors add, in a parenthesis: "(Keynes's procedure could be equally well described as opportunistic.)" This seems to be a tribute to those readers of Keynes who want to have quite a different memory of the 'real' Keynes, maybe a memory of a vehemently anti-marginalist Keynes who would have come forth had he not been so "opportunistic".

32. R.F. Kahn, 1937, JMK, XIV, 260: "as far as Pigou [1937] is concerned the issue is not one of schools of thought but of the most *crashing* and *stupid* errors of statement and of reasoning", his emphasis.

nomics' was a replacement of the old Ricardian-type economics based on neoclassical production functions with a new type of Ricardian economics based on fixed-coefficients production functions. Keynes's vision of a 'New Cambridge Economics' which is based on a re-considered Malthusian inheritance of effective demand analysis was never heard of again from any one of the Cambridge post-Keynesians. Their intellectual inspiration came from Karl Marx and for Marx T.R. Malthus was of 'utter baseness' of mind, as quoted above.

In short, the diverse utterances in, against, and around Pigou (1937) as well as the lack of such clarification as this article called for–they all together were the proverbial 'coffin nails' for the Cambridge School.

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