A. C. Pigou: *From Wealth and Welfare* to *The Economics of Welfare*[1]

Keith Tribe

A. C. Pigou was as a "Cambridge economist" direct successor to Alfred Marshall as Professor of Political Economy, and an economist whose conception of ethics and the role of ethical argument in the development of economic reasoning owed a great deal to Henry Sidgwick. Both of these links have been obscured by the fact that his best-known work, *The Economics of Welfare*, was published in 1920 shortly after a war one of whose effects was to render pre-war Cambridge extremely remote. Subsequent discussion of Pigou's contribution to "welfare economics" has treated *Economics of Welfare* as a starting point; to be more precise, the criticism of John Hicks and others related to the fourth edition of 1932, which itself had undergone successive very extensive revision since 1920. The fact that *Economics of Welfare* was a substantial reworking of the earlier *Wealth and Welfare*, published in 1912, is likewise ignored, and Pigou's work has itself been subjected to remarkably little attention.[2] This neglect detaches *Economics of Welfare* from the context in which it had been conceived and constructed. I believe that light can be shed on the construction of this text by examining the manner in which Pigou revised *Wealth and Welfare* into *Economics of Welfare*: we can better understand the argument of *Economics of Welfare* if we are able to identify what was added, revised or deleted from its original form as *Wealth and Welfare*. These are

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1 This is a preliminary draft of a two-part assessment of Pigou's *Economics of Welfare*. Part I is directed to the general context of *Wealth and Welfare*, treating this work as the initial realisation of Pigou's first engagement with economic argument, and identifying the manner in which that text was then reshaped into a retitled work, *The Economics of Welfare*. The subsequent revisions to that text, creating the work that underlay the creation of the "new" economics of welfare, will be examined in a separate paper.

2 David Collard provides more or less the only useful overview of Pigou's work in his "A. C. Pigou, 1877-1959" in D. P. O'Brien, John R. Presley (eds.) *Pioneers of Modern Economics in Britain*, Macmillan, London 1981 pp. 105-39, but suggests *inter alia* that *Wealth and Welfare* was "expanded" from his interests in industrial peace and unemployment, while noting offhandedly (without page reference or further discussion) that his conception of externality "was taken from Sidgwick", together with the impact upon the poor of an increase in national product or, alternatively, the redistribution of a static national product (p. 111). If these ideas were indeed simply adopted from Sidgwick's *Principles of Political Economy* this would seem to merit rather more than a passing reference to Sidgwick. Whereas Collard primarily orients his assessment of Pigou to what others later made of his work, I am instead interested here in what Pigou made of what he found in others, presuming that we can in this way find our way back to what is novel and interesting in his work.

both large books, but the bulk of *Wealth and Welfare* was new, and *Economics of Welfare* more or less doubled the size of an already large book. An examination of the purposes for which *Wealth and Welfare* was constructed might lend us additional insight into the manner in which that text was subsequently refashioned.

There has also been a curious absence of any detailed historical commentary upon Pigou's rapid transition, within just over a decade, from “young pretender” to something approaching a relic of a past order, a transition later confirmed by Keynes’ treatment of his work in *General Theory*. His apparent isolation is underlined by the fact that he did, despite suffering heart problems from the later 1920s, live to a very old age, dying only in 1959, long after his most important work had been done. The contrast with Keynes in this respect is instructive for the way in which the physical life of “great economists” does not necessarily coincide with the reasons they are considered “great” – Bickerdike is another case that springs to mind – and that this disjunction can conspire to tarnish their image as reflected in historical commentary. The purpose of this essay is, in general, to redirect our focus to the historical importance of Pigou in the development of economic analysis, looking back to his writing and beyond the reputation that he later acquired in Cambridge from the 1930s onwards. To better understand Pigou’s *Economics of Welfare*, then, I set on one side the entire history of “welfare economics”, a history which this book initiated. I wish first of all to put Pigou back in his place: pre-war Cambridge.

While in so doing I presume that this history is of no relevance for understanding Pigou’s arguments in 1920, some justification for this presumption is here in order. John Hicks’ essay “The Scope and Status of Welfare Economics”[3] presents an assessment of the reception of Pigou’s *Economics of Welfare* and places this work in a tradition of argument that goes back to Smith’s *Wealth of Nations*, adding to this some remarks on the historical evolution of economics that draws attention to the cyclical, rather than strictly progressive, nature of this evolution. As such it argues for a historical appreciation of the sources and transformations of economic theory, rather than the purely formalistic treatment exemplified by Bergson’s article of 1938[4] and, it must be said, his own “The Foundations of

3 Published in *Oxford Economic Papers* Vol. 27 (1975) pp. 307-26; I cite here from Hicks, *Wealth and Welfare*, Collected Essay on Economic Theory Vol. 1, Basil Blackwell, Oxford 1981 pp. 218-39.

4 Abram Bergson, “A Reformulation of Certain Aspects of Welfare Economics”, *Quarterly Journal of Economics* Vol. 52 (1938) pp. 310-34 (Bergson here still signed himself as Abram Burk). Of particular interest here is the treatment of Pareto, since Bergson claims to be referring to the second volume of the 1896-97 *Cours d’Economie politique*, rather than the *Manuale* of 1906 (or rather, its 1909 French translation) to which we have to assume Hicks is alluding in his “Foundations of Welfare Economics” (1939), *Wealth and Welfare* p. 62. My assumption is here based on the fact that in his *Value and Capital* Hicks cites this French translation when referring to “Pareto” – Oxford University Press, London 1939 p. 12. The significance of these distinctions in connection with Pigou is brought out by Marco Dardi and Alberto Zanni, “Pareto’s ‘Third Way’ between Marshall and Walras”, in Tiziano Raffaelli, Giacomo Becattini, Katia Caldari, Marco Dardo (eds.) *The Impact of*

Welfare Economics".[5] Hicks begins his account by directing attention to the criticism made of Pigou that "welfare" is a moral concept, and that furthermore the individual choices related to that individual's welfare could not be aggregated – that there could be no interpersonal comparisons of utility. Pigou's project was however, suggests Hicks, rescued during the 1930s by reference to "a hint …. in one of the more obscure chapters of Pareto's *Manuel*, which seemed for a while to provide a solution."[6] Unfortunately Hicks does not tell us which "obscure chapter" this is, and misdates the French translation to 1910. The answer, he suggests, lay in the "Pareto optimum", which Kaldor "was the first to explicitly maintain".[7]

Except that Kaldor did not. In the article to which Hicks refers Kaldor makes no explicit reference to Pareto at all; instead there is an allusion argued first in respect to the distributional impact of the abolition of the Corn Laws and then, more directly, to Pigou's arguments about distribution and welfare in *Economics of Welfare*.[8] The first effective exposition of what Hicks seems to have in mind comes in his own 1939 essay, where what he calls a "substitution curve" is outlined in relation to the comparative costs of intra-regional trade.[9] Strictly speaking, this exposition runs straight back to Edgeworth's *Mathematical Psychics*;[10] and we should note that the reformulation as an "Edgeworth Box" was first effected by Pareto in his 1906 *Manuale*. And not, for example, in the *Cours* of 1896-97 to which Bergson refers. The point here is that the way in which the concept of Pareto optimality entered the economic instrumentarium of neoclassical economists is far from clear. From the above, it is more than likely that what we today know as "Pareto equilibrium" has more to do with what writers in the 1930s made of Pareto than what Pareto himself wrote. More importantly for our purposes, since this concept runs back to Pareto's 1906 reworking of Edgeworth 1881, we must consider why Pigou himself does not seem to have introduced this idea, since in 1912 he demonstrated a familiarity with both *Cours* and *Manuale*; and in any case the general idea seems to originate with Edgeworth, with whose work he was likewise familiar.

Alfred Marshall's Ideas. The Global Diffusion of his Work, Edward Elgar, Cheltenham 2010 pp. 199-215. In the course of Part II I will examine Pigou's reading of Pareto.

5 This was first published in *Economic Journal* Vol. 49 (1939) pp. 696-712.

6 Hicks, "Scope and Status", p. 220.

7 Loc. cit.

8 Nicholas Kaldor, "Welfare Propositions of Economics and Interpersonal Comparisons of Utility", *Economic Journal* Vol. 49 (1939) pp. 549-52.

9 He credits Haberler, *The Theory of International Trade* (1936) here - *Wealth and Welfare* p. 65.

10 See Peter Newman (ed.) *F. Y. Edgeworth: Mathematical Psychics and Further Papers on Political Economy*, Oxford University Press, Oxford 2003 pp. 22-8.

Hicks' 1975 sketch of the "doctrine put forward in 1938-40"[11] is very sketchy and reduces "The Second Welfare Economics" to a matter of redistribution and taxation. He then puts the Paretian theory to one side so that he might "go back to Pigou", attending to the "structure of the whole book, not merely to the title and the opening chapters."[12] But this proposition is sustained for less than a page before Hicks is talking of Adam Smith. And here Hicks derails Pigou completely.

Hicks suggests that in addressing "the nature and causes of the wealth of nations" Smith is addressing the same problem as Pigou: the "nature" corresponds to Part I of *Economics of Welfare*, and "causes" to Part II.[13] However, Smith did not address the issue of distribution; this was done by Ricardo, and since Mill's 1848 *Principles of Political Economy* unites both production and distribution, Hicks can claim that there is a continuity between Mill and Pigou:

> Pigou was concerned with Production and Distribution, just like the Classics; where he differed from them was that his method of valuation was different. Instead of valuing by cost, he valued by utility – marginal utility. To some extent this was an improvement, but only to some extent. He was less dependent upon factor substitutability, and that was a gain, a great gain. But he paid for it by the troubles about inter-personal comparisons….[14]

Hicks then proceeds to reconstruct Pigou on this basis, suggesting that over time economic analysis changes its perspective and focus of attention, rather than developing in a uniform progressive manner. But in linking Pigou's interest in distribution to that of Ricardo – as Kaldor also does implicitly in his 1938 article – Hicks entirely distorts our understanding of what Pigou is seeking to achieve in constructing his arguments. Ricardo's focus on distribution is dictated by his concern for the rate of profit and its role in the allocation of resources. Pigou is interested in distribution, but in relation to issues of equity and welfare. This interest led him to develop ideas that are entirely unrelated to anything that can be found in Ricardo. And if we are to understand these ideas and their importance we can only be confused and misled once we set off down the path that Hicks sketched out. We need to find a different path altogether.

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11 "Scope and Status", p. 221.

12 "Scope and Status", p. 222.

13 "Scope and Status", p. 224.

14 "Scope and Status", p. 226.

Pigou's Turn to Economics

Pigou's first publications in economics appeared in the December 1900 issue of the *Economic Journal*, six months after he had gained a First in Part II of the Moral Sciences Tripos.[15] He had just turned 23. Within another six months Marshall announced that Pigou would be giving his "General Course";[16] this began that autumn with lectures on "Political Economy" three times a week over two terms for those taking both the History and the Moral Sciences Tripos[17] The following year, 1902, Pigou announced a course of lectures for Moral Sciences students on "Modern Developments of Industrial Combinations", to be given in the Easter (ie. summer) term, hence over four weeks.[18] In May 1903 he was awarded the Adam Smith Prize for his essay "A study in the principles and methods of industrial peace".[19] In June 1904 he was appointed to the Girdlers' Lectureship in Economics, to run until 1907.[20] At the end of May 1908, aged 30, he was elected as Marshall's successor.[21]

As Sidney Webb then wrote to William Ashley:

> What a jump for Pigou is the Cambridge appointment! I don't at all approve, for more reasons than one. But Marshall seems to have moved heaven and earth to exclude you and Foxwell. I happen to have learned, a couple of years ago, that Marshall intended & expected Pigou to succeed him, but scarcely believed it to be possible with such more experienced and distinguished persons in the field.[22]

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15 Pigou was one of three Firsts in the Moral Sciences Tripos, taking the paper in "Political Economy", three other students being classified; D. H. Macgregor gained a First in Pt. I the same year – *Cambridge University Reporter* Vol.XXX No.40 12.June 1900 pp. 1038-9.

16 *Cambridge University Reporter* Vol.XXXVI No.41 21.May 1901 p. 892: "A course of lectures on the same lines as his 'General Course,' of recent years, will be given on his behalf by Mr.Pigou: and his own lectures will not be suitable for students in their first or second years, unless they have already a considerable knowledge of economics." This means that a year after he graduated Pigou started teaching the same course on economics through which he had first learned any economics.

17 *Cambridge University Reporter* Vol.XXXII No.3 9.October 1901 pp. 28-9.

18 *Cambridge University Reporter* Vol.XXXIII No.3 8.October 1902 p. 29.

19 *Cambridge University Reporter* Vol.XXXIII No.36 12.May 1903 p. 727.

20 *Cambridge University Reporter* Vol.XXXIV No.45 14.June 1904 p. 994. He was reappointed in 1907 for another three years - Vol.XXXVII No.38 4.June 1907 p. 975.

21 *Cambridge University Reporter* Vol.XXXVIII No.41 2.June 1908 p. 1015; the Girdler's lectureship was simultaneously declared vacant, and H. O. Meredith appointed for three years in August - Vol.XXXVIII No.50 8.August 1908 p. 1350. Among the electors were Neville Keynes, A. J. Balfour (nominated by the Senate; Palgrave, Stanton, Sorley (nominated by the General Board of Studies); Edgeworth, Nicholson, Courtney (nominated by the Special Board) - *Cambridge University Reporter* Vol.XXXVI No.15 8.January 1906 p. 368, the appointments of Palgrave and Keynes being renewed in April 1906 and January 1908 respectively.

22 Sidney Webb to W. J. Ashley, London 16 June 1908, William J.Ashley, Assorted Correspondence, Birmingham University Library Archives, 9/iv/4-5.

This sense of astonishment that Pigou should have been appointed over Ashley and Foxwell has had some resonance over the years. But the idea that the electors could be pressured by Marshall to favour Pigou can be discounted once we consider who they were; while it should be more cause for astonishment that either Ashley or Foxwell should have thought themselves capable of succeeding Marshall in the Cambridge chair. On the evidence of his writings, Ashley had lost interest in contemporary economic analysis around twenty years before, and he had in effect announced this to his fellow economists the previous summer in his Presidential Address to Section F of the British Association. As if to make sure that everybody got the point the Address was published as the lead article in the December 1907 issue of the *Economic Journal*, and then republished with slight changes in the Schmoller Festschrift the following year. In the version published in the *Economic Journal* his narrative of "modern economics" ceased with Jevons, characterising the new "marginalists" as follows:

> They all begin, at any rate, by laying stress on the doctrine of marginal or final utility, some as the key to the whole problem of value, some as the key to the demand side of it. And what has one to say to it? Of course, in the first place, it is quite true, so far as it goes; and, in the second place, it is pedagogically of some use.
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> Instead of leading us to the very heart of the problem, the doctrine of marginal value seems to me to remain entirely on the surface: it is not much more than a verbal description of the superficial facts at a particular point in time.[23]

Ashley had opened with the proposition that the Classical Economics of Ricardo and Mill was now definitively in the past; but his view of the "present position" was that contemporary economics was uninteresting, and the promise of "historical economics" had led so far only to some developments in economic history. This was hardly the kind of platform from which he might present himself as the new Cambridge Professor. The case of Foxwell was even more extreme. In his late fifties at the time of the election, he had been taught by Marshall before graduating in Moral Sciences in 1871, and his principal contribution to the emerging discipline of economics was as a collector of (English language) economic literature,

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23 W. J. Ashley, "The Present Position of Political Economy", *Economic Journal* Vol.17 (1907) pp. 476-7. This was republished the following year with a small addition concerning Marshall's "static analysis" and some footnotes to passages in Jevons and Marshall as "The Present Position of Political Economy in England", in *Die Entwicklung der deutschen Volkswirtschaftslehre im neunzehnten Jahrhundert* Bd.I (Schmoller Fs.), Duncker und Humblot, Leipzig 1908 pp. XV 1-26.

preserved today as the Goldsmiths' Collection in the University of London Library.[24] He had assisted Marshall for many years in the teaching of economics in Cambridge, wrote very little, and what he wrote suggests that, like Ashley, his conception of "modern economics" was formed in the 1880s and remained unchanged thereafter.[25]

What was it that Marshall saw in Pigou? For one thing, clearly a candidate who engaged with the propositions that he had set out in his *Principles*, as demonstrated by his first note published in the September 1902 issue of *Economic Journal*. Here Pigou takes up a point made by Edgeworth regarding the impact of a tax on corn, that there would be a differential impact of the tax across different kinds of grain, and that it could turn out that foreign producers might have to accept lower prices for some grains because of the related inelasticities of demand. Pigou is not concerned to dispute this analytical approach; rather he wants to show that while Edgeworth seeks to demonstrate analytically that the price of wheat *might not* rise by the full amount of the tax, he can demonstrate that it *probably will not do so*.[26]

> Let us begin then by simplifying the problem, and, ignoring barley and oats, concentrate attention upon wheat and maize. The British demand for the former is likely to be inelastic about the point of consumption, as Professor Edgeworth suggests; and for the latter it is "derived" from our demand for meat, which, as having to do with something that is more or less of a luxury to many classes, is likely to be fairly elastic. Further, the British demand for maize itself will, in the present case, be considerably more elastic than that for meat, because, when the price of raw maize is raised by the tax, there will be a tendency to import a quantity of it, which had hitherto come into

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24 Important here is that both Edgeworth and Pigou routinely read and reviewed French, German and Italian contemporary writing. Foxwell showed no such interest in non-Anglophone economic literature; his one significant publication, an "Introduction" to the translation of Anton Menger's *The Right to the Whole Produce of Labour*, Macmillan, London 1899 pp. v-cx, disregards entirely Menger's account of Saint-Simon, Proudhon, Lassalle, Marx and Rodbertus and is devoted to an account of English socialism.

25 For this context see the lucid account in A. M. McBriar, *Fabian Socialism and English Politics 1884-1918*, Cambridge University Press London 1962 Ch. 2. Foxwell remained unreconciled to Marshall as well as Pigou. When the government introduced compulsory service for all men under 40 during the winter of 1915-16, Neville Keynes was charged by the Economics Board to seek exemption for Pigou, so that Pigou might remain in Cambridge during term and teach on the Tripos - at the time Pigou was 38 years old and active as an ambulance driver in Italy during the vacations, having also donated two cars to the field ambulance unit. Foxwell was asked by Neville Keynes if he were prepared to substitute for Pigou, to which he gave Keynes an equivocal and unhelpful response. In May 1916 Neville Keynes succeeded in gaining an exemption for Pigou, but not without recriminations about misrepresentation from Foxwell in the *Cambridge Daily News*. For this whole episode, and Cunningham's discreditable involvement in a minor press campaign against Pigou, see Phyllis Deane, *The Life and Times of J. Neville Keynes. A Beacon in the Tempest*, Edward Elgar, Cheltenham 2001 pp. 256-61.

26 "A Point of Theory Connected with the Corn Tax", printed in the "Notes and Memoranda" section of *Economic Journal* Vol. 12 (1902) p. 415.

> the country in this form, as the finished product meat.[27]

This is the starting point of a line of thought which first establishes that the impact of British consumption on the price of maize in America is small, then considers the possibility that British farmers will switch from stock-feeding to wheat growing, advances some data from the *Corn Trade Year Book* (assuming that is that its estimates "are to be relied on") and distinguishes among other things between the feed for carriage horses and that for other kinds of horses. It is a classroom presentation of a textbook instance of the Marshallian approach to economic analysis, sharing Edgeworth's point of departure but displaying Marshall's interest in setting these principles to work in the examination of their particular impact upon economic agents and institutions. A similar approach can be found in his *Riddle of the Tariff*, completed in the autumn of 1903. Written for an educated public, Pigou there dismisses as "unsound" the arguments of Ashley regarding the beneficial impact of protection in attracting capital into the country, and calls for support on Marshall's comments to Section F in 1889 regarding the generally deleterious impact of protection on profitability, and hence general investment.[28] Here again, Pigou seeks to extend the abstract reasoning that Edgeworth exemplified into the impact of policy on patterns of actual economic behaviour, entirely in line with Marshall's practice.

Earlier in 1903 Pigou had published his first article in the *Economic Journal*, directed to a purely theoretical issue, relating to utility and consumers' surplus. This took up comments he had already made in a 1902 review of Simon Patten's *Theory of Prosperity*, and while there expressing a series of reservations about Patten's generalisations, he went on to endorse the value of the second part of the book. Here Patten outlines a conception of evolutionary human development, in which the effort necessary to procure goods diminishes, and so the amount of "utility" achievable increases given a constant input of effort. Linked to this is the fact that in this process demand for any one commodity diminishes, creating a "surplus" of "energy" that can be employed in other directions. Patten argues that this evolutionary movement selects in favour of altruistic, rather than self-seeking behaviour:

> Otherwise, when wealth increases, the rich, looking only to their own interests, become dissipated, while the poor of the race remain underfed. On both sides, therefore, the selfish group undergoes physical degeneration,

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27 "Point of Theory" pp. 415-6.

28 A. C. Pigou, *The Riddle of the Tariff*, Brimley Johnson, London 1903 pp. 17-18. Edgeworth reviewed this in the *Economic Journal*, noting that in the previous number he had reviewed "what seemed the best book on the Protectionist side" – Ashley's *The Tariff Problem*, *Economic Journal* Vol. 13 (1903) pp. 571-75. Pigou's book, stated Edgeworth, appeared to occupy a "similar position on the other side" – *Economic Journal* Vol. 14 (1904) p. 65, noting in conclusion of Pigou that "The power with which he wields the organon of economic theory is of the highest promise" op. cit. p. 67.

> while the unselfish becomes stronger. In them, the rich when they feed the poor are thereby preserved from feeding themselves too much, and the provision of public libraries and so forth shows itself "twice blessed; it blesses him that gives and him that takes."[29]

Patten concludes that as countries become wealthier, the more prosperous members of these countries will demonstrate a concern for the well-being of the less advantaged. Pigou commends this to his readers; but then suggests that the earlier parts of the book are replete with poorly-formed definitions, noting also that

> The method of total utility diagrams, which is profusely employed, cannot but suggest to the careless that those difficulties connected with consumers' rent, which Professor Marshall faces with such courage, can be got over by the simple expedient of ignoring them. In certain other respects complications which can be avoided by considering groups of men seem to be unduly emphasized by concentrating attention, as Professor Patten does, upon the conditions of individual consumption (e g., p. 101).[30]

This forms the starting point of the 1903 article, referring initially to Patten's book but not to this review. He first raises the question of the measurement of utility, rejecting Edgeworth's definition in *Mathematical Psychics* as "just perceivable increments of pleasure"[31] since we might suppose this metric to be purely formal. Instead, the "desire for some definite object" has to be taken as the unit, and Fisher's adoption of the "util" is deemed the most suitable.[32] From this Pigou is able to develop the argument that any sudden increase in wealth will change the price given for any one good, but also the intensity of desire for any commodity. This leads to the substitution of one commodity for another with increasing income. But the utility of one good to the consumer is also a function of the quantity possessed by other consumers, this leading Pigou into an extended discussion of Cunynghame's exposition of the relation of the desire for top hats and diamonds. Quite how this dependence of total utility on the distribution of any one good might be expressed mathematically is not however clear, Pigou next veering off into a discussion of the utility to him of a third carriage.[33]

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29 A. C. Pigou, review of Patten, *The Theory of Prosperity*, *Economic Journal* Vol. 12 (1902) p. 371.

30 Review of Patten, p. 372.

31 Edgeworth, *Mathematical Psychics*, op. cit. p. 99.

32 A. C. Pigou, "Some Remarks on Utility", *Economic Journal* Vol. 13 (1903) p. 59.

33 Pigou, "Some Remarks", p. 61.

After some criticism of Patten, Pigou then seeks to link the individual to the market. This cannot be done by summing the individual utilities since the use of *ceteris paribus* has fixed all other consumption while considering the consumption of consumer *I*:

> …we commit the same fallacy when we combine individual utility curves into a market utility curve, as we do when we add together the consumers' rent from coffee, estimated upon the assumption of a given consumption of tea, and the consumers' rent from tea, estimated on a similar assumption with regard to coffee.[34]

Pigou then adds successive increments of one good in the order of utility yielded to a series of agents, noting that while there are problems with this approach, it is workable for evaluating small changes in consumption, and it is these kinds of changes which are relevant to Marshall's discussion of taxation. "The engine which he has devised, though limited in range, can therefore often serve us."[35]

Pigou followed this discussion up the following year, considering monopoly and price discrimination in the context of consumers' surplus, building on Edgeworth.[36] In 1905 he published a book worked up from his Adam Smith Prize essay and lectures he had given at University College London, reflecting his parallel interest in industrial welfare.[37] But in the year before his appointment as Marshall's successor he responded to a request from Edgeworth as editor of the *Economic Journal*, and in the December issue reviewed the fifth edition of Marshall's *Principles*. Not without some trepidation, he made clear, but with the advantage, as Marshall's pupil, of having a clear conception of the "organic unity of the whole."[38] First detailing some of the revisions to this edition, he stated that he wished to concentrate his attention on two conceptions which Marshall considered fundamental, but which Marshall considered to have been misunderstood in England and America:

> I mean the conceptions of the *rôle* played in Economics by Time, and by the National Dividend.[39]

The first of these is described as Marshall's most original contribution, since the latter idea

34 Pigou, "Some Remarks", p. 64.

35 Pigou, "Some Remarks", p. 66.

36 A. C. Pigou, "Monopoly and Consumers' Surplus", *Economic Journal* Vol. 14 (1904) pp. 388-94.

37 A. C. Pigou, *Principles and Methods of Industrial Peace*, Macmillan, London 1905: this he described as an ethical work, directed to the principles that ought to be employed in the settlement of industrial differences, rather than describe those which are in fact are employed (p. 3).

38 A. C. Pigou, review of Marshall, *The Principles of Economics Vol. I*, fifth edition, *Economic Journal* Vol. 17 (1907) p. 532.

39 Pigou, review of Marshall p. 533.

had been present in the writings of Adam Smith; but it was the second which was of greater importance:

> There is one point only which I should like to make. *The conception of the National Dividend is not an academic toy, but a practical instrument of great power designed for service in the concrete solution of social problems*. The unavoidable but regrettable delay in the appearance of Prof. Marshall's second volume has obscured this fact.[40]

Described as "the flow of economic goods and services made available during the year", this is the centre of the whole of this reasoning. This was because many areas of social policy could not be determined without reference to it – from the treatment of trade unions to that of the poor, and poor children in particular, the central question was how any policy would affect the National Dividend. Pigou likewise points out how Marshall argues that invention and innovation have historically been the province of independent workers, not governments, casting the debate over collective and private ownership in a new light. And the review ends with a peroration that recalls that of Marshall's own inaugural lecture of 1885:

> The dividend constitutes the kernel of economic theory because …. it is the centre of sound philanthropic endeavour. It is to an analysis of this that we are driven when, throwing off the moral torpor of indolent optimism, we refuse, "with our modern resources and knowledge, to look contentedly at the continued destruction of all that is worth having in multitudes of human lives," and demand from social science guidance for social reform.[41]

Pigou's own inaugural extended this idea, asking what the purpose of the study of economics might be. Addressed to the "ordinary business of life", the subject matter of economics was neither inspiring nor that interesting in itself. What was required of the economist was that he had the physiologist's impulse, "…knowledge for the healing that knowledge in some measure may help to bring":

> For our science is not a normative but a positive science. It is concerned not with what ought to happen, but with what tends to happen. Hence it cannot, of itself, lay down any precepts of reform. It inquires, just as physiology inquires, what effects would follow if a given cause were introduced; it does not profess to pass judgement on questions of the relative goodness-in-themselves of various states of conscious life. That is a

40 Pigou, review of Marshall pp. 533-4.

41 Pigou, review of Marshall p. 535.

matter for Ethics. In the court of that higher discipline we learn – or try to learn – something concerning that. When we have learnt it, Economics adds: Such and such an action, whether of a government or of a municipality or of a voluntary association or of an individual man, is likely to alter conscious life in such and such a way. Then, and not till then, we are in a position to conclude: The effects of such and such an action are likely to be good (or bad). Hence, Economics and Ethics are mutually dependent. The practical art of social service requires them both.[42]

And so as a Cambridge economist Pigou was the true heir of Marshall; but, like Marshall, there was also a strong connection to Henry Sidgwick, to whom I now turn.

Henry Sidgwick

The connection of both Marshall and Pigou to the work of Henry Sidgwick has recently been well-made by Roger Backhouse,[43] and there is also an older essay which draws general parallels between Sidgwick's *Political Economy* and *Economics of Welfare*.[44] However, as Backhouse points out,[45] Sidgwick is today treated as a seminal moral philosopher and there is little discussion of his views on political economy; although it does seem that it was Sidgwick who first impelled Marshall into the study of political economy, and he was also the author of a major, if neglected, text on the subject. The extent of this problem is evident in Bart Schultz's rambling intellectual biography of Sidgwick. In the course of discussing the impact of Sidgwick upon Cambridge economists Schultz reports without comment a remark by Nicholson relating to *Wealth and Welfare*, suggesting that Pigou had not really appreciated the work of Sidgwick since he was only "mentioned in connection with one or two points of

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42 A. C. Pigou, *Economic Science in Relation to Practice*, Macmillan, London 1908;Inaugural Lecture given in Cambridge 30 October 1908 pp 11, 13.

43 "Sidgwick, Marshall, and the Cambridge School of Economics", *History of Political Economy* Vol. 38 (2006) pp. 15-44.

44 Margaret G. O'Donnell, "Pigou: An Extension of Sidgwickian Thought", *History of Political Economy* Vol. 11 (1979) pp. 588-605. O'Donnell's focus is on *Economics of Welfare* as an expression of Pigou's conception of welfare economics supplemented by reference to his later work; it pays no attention to *Wealth and Welfare*, nor to the construction of either text. Her prime concern is to establish the existence of a link between Pigou and Sidgwick: "Although Sidgwick's work has not been recognized as pivotal in welfare theory, the comparison between Pigou and Sidgwick clearly demonstrates the fact that it does contain the components essential to the theoretic welfare base. Like Sidgwick, Pigou clarified welfare in terms of "utility"; he set out criteria for increasing welfare in terms of Sidgwick's two propositions; and he analyzed the divergences from optimum output with ideas that can be found scattered throughout Sidgwick's writings. There is no doubt that Pigou gave welfare economics a name and defined categories for organization and discussion, but there should also be little doubt that many of the basic ideas that Pigou used were not original with him, but were the work of Sidgwick." p. 605.

45 Backhouse, "Sidgwick, Marshall" op. cit., p. 41 fn. 17.

minor detail."[46] Why Nicholson should pass a judgement of this kind would be worth considering; but more importantly, Schultz fails entirely to notice that there is a problem here, for the idea that Pigou failed to appreciate Sidgwick's work is simply false. The most authoritative account of Sidgwick remains Schneewind's *Sidgwick's Ethics and Victorian Moral Philosophy* of 1977, and there is naturally in that work no attempt to assess the impact of Sidgwick's thinking on the construction of early Cambridge economics.

As Backhouse and Nishizawa suggest, up until Mill political economists equated "wealth" with "welfare"; the potential difference between measurable wealth and the utility which an individual derived from it being reflected in arguments around the relationship of value in use and value in exchange. The development with Jevons of a subjective account of utilitarianism broke with this Classical tradition, but introduced the problem of how individual utilities might be summed or compared.[47] Sidgwick's *Principles of Political Economy*, while broadly Millian in construction, built upon this; instead of contrasting wealth and utility, he identified the divergence between wealth as measured by prices, and wealth in terms of the utility created by the goods and services at the disposal of the individual. It was the nature of these latter utilities that he addressed; the relation of their "ethical value" to their money value.

Sidgwick's *Method of Ethics* was first published in 1874 and has been rightly characterised as "rooted in the problems of the mid-Victorian age":[48] specifically, seeking a grounding for moral conduct that had no recourse to religious argument. While Sidgwick did succeed in providing a foundation for utilitarianism in principles of equity, prudence and benevolence,[49] he did not succeed in providing a reason for preferring utilitarianism over egoism.[50] But as Simon Cook has convincingly demonstrated,[51] in this he was not so very far from Marshall, who during the 1870s was also engaged in a long struggle to detach his economic thinking from that of John Stuart Mill. Indeed, we could characterise the work of Sidgwick and Marshall in the 1880s as part of a sustained effort to reconstruct the moral

46 J. S. Nicholson, "The Vagaries of Recent Political Economy", *Quarterly Review* No. 219 (July-October 1913) p. 420; cited in Bart Schultz, *Henry Sidgwick: Eye of the Universe. An Intellectual Biography*, Cambridge University Press, Cambridge 2004 p. 540.

47 Roger E. Backhouse, Tamotsu Nishizawa, "Introduction", in Baochouse and Nishizawa (eds.) *No Wealth but Life. Welfare Economics and the Welfare State in Britain,1880-1940*, Cambridge University Press, Cambridge 2010 pp. 2-4

48 Backhouse, "Sidgwick, Marshall" op. cit., p. 19.

49 Backhouse, "Sidgwick, Marshall" op. cit., p. 21.

50 A problem for which Patten provided an evolutionary solution in his *Theory of Prosperity* and which underlies Pigou's 1903 EJ article on utility, as noted above.

51 Simon J. Cook, *The Intellectual Foundations of Alfred Marshall's Economic Science. A Rounded Globe of Knowledge*, Cambridge University Press, Cambridge 2009.

sciences on new foundations: as social sciences whose conceptions of politics and economics were material, not philosophical, and yet sharing an ethical foundation. Central to this was the conception of the human agent, the nature of the choices made by that agent and the impact which such choices had. While these ideas were embodied in Smith, reflecting Rousseauist conceptions of human will and the General Will, the critique of Smith effected by James Mill and David Ricardo had, as Jevons correctly observed, "shunted the car of Economic science on to a wrong line – a line, however, on which it was further urged towards confusion by his equally able and wrong-headed admirer, John Stuart Mill."[52] While the first half of this passage is familiar enough, it is perhaps the second half to which attention should be drawn, and extending the judgement to embrace Mill's conceptions of politics and liberty.

Sidgwick, in a note added to the opening chapter of his *Principles of Political Economy*, picked up this comment by Jevons and characterises it as "exaggerated and violent" with regard to Ricardo, and "entirely false and misleading" as regards Mill. Interestingly, in respect of the stature that Ricardo gained in the twentieth century, Sidgwick does not consider Ricardo to be a "thoroughly clear and consistent reasoner; and it has always seemed to me highly unfair to the deductive method of economics to treat Ricardo's writings as a peculiarly faultless specimen of its application."[53] His defence of Mill is however uncompromising, moderated only by his recognition that Mill had failed to make plain the distance that separated his work from that of Ricardo; continuing:

> …still in a subject where most writers have shewn so marked a tendency to emphasise the novelty of their ideas, and exaggerate their divergence from their predecessors, it appears to me a weakness that "leans to virtue's side".[54]

This remark is typical of Sidgwick's characteristically even-handed stance, and also incidentally highlights a methodological issue that should be clearly confronted. The object of this essay is to identify the novelty of Pigou's *Economics of Welfare* by comparing that work with its original as *Wealth and Welfare*, and in turn seek evidence for the reasons that *Wealth and Welfare* was constructed the way that it was. However, if we were to treat

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52 W. S. Jevons, "Preface to the Second Edition", *Theory of Political Economy*, Macmillan, London 1879 p. li.

53 Henry Sidgwick, *The Principles of Political Economy*, Third Edition, Macmillan, London 1901 pp. 9-10. Originally published in 1883, the second edition of 1887 was partially revised, and the third edition differs from that only in some minor changes and the addition of sections from entries Sidgwick had contributed to Palgrave's *Dictionary* – John Neville Keynes, "Preface to the Third Edition", dated November 1901. Since this edition coincides with the time when Pigou turned to a serious study of economics this seems to be the most appropriate to use in connection with the arguments advanced here.

54 Sidgwick, *Principles*, p. 11.

either Marshall's or Sidgwick's respective *Principles* in the same way we would be embarking upon an endless regress. Instead, these texts are read not in contextual terms, but rather in terms of what Pigou might have taken from them. They are treated as a baseline: I have no interest here in exploring Sidgwick's relation to Mill, for example. It could be argued that I treat Sidgwick here much in the same way that Hicks treated Pigou's *Economics of Welfare*, taking from it what interested him, and disregarding the rest. However, one elementary demarcation can be made: while it seems that Hicks attributed ideas to Pigou that Pigou did not actually express, or overlooked the implications of the sources upon which Pigou demonstrably drew, this was only possible because he refers to *Economics of Welfare* in a very generalised way, treating the 1932 edition as if it were the same thing as the 1920 edition, hence indicating that he was interested in "ideas", not the text embodying them. This distinction is an important one – minimally of course to make sure that if something is attributed to a particular text it is as well to indicate exactly where this is expressed; more directly, because the organisation of the text itself is part of the "ideas" there expressed. When I write "Pigou" I am here generally using this as a shorthand for the texts that bear his name – hence whatever can be said about the "relation of Pigou to Sidgwick" turns on an intertextual relationship, not one between persons. And so my reading of Sidgwick's *Principles* adopts one particular perspective: Pigou's *Wealth and Welfare* of 1912, supplemented by various previous texts, some of which have already been discussed.

The third edition of Sidgwick's *Principles of Political Economy* has a main text of nearly 600 pages, and also very usefully a sixteen-page annotated table of contents which provides the reader with a summary commentary on the book as a whole. Besides three introductory chapters stating the aim of the work, an assessment of the nature of political economy, and its proper method, the book is divided into three books of unequal length: on Production (pp. 55-167); Distribution and Exchange (pp. 171-392) and The Art of Political Economy (pp. 395-592). Books One and Two comprise the "Science of Political Economy, "as it is ordinarily conceived in England",[55] hence a broadly Millian account of the trinity production, distribution and exchange. The Art of Political Economy "deals with a special department of governmental interference, designed to improve either the social production of wealth or its distribution…".[56] Stated in this way, the resemblance to Mill's *Principles* evident in the design of Sidgwick's Books One and Two ceases here. Book IV of Mill's *Principles* had dealt with the "progress of society", considering the augmentation of production and population, the tendency of profits to fall to a minimum, and in its final chapter "The Probable Futurity

55 Sidgwick, *Principles*, p. 33.

56 Loc. cit.

of the Labouring Classes". Mill's own treatment of taxation comes in Book V, "On the Influence of Government", where the treatment of equality recognises the differential impact of a given tax, but does not conceive tax itself as an instrument of social policy in the achievement of equity. Sidgwick's treatment of government activity and its economic consequences has moved beyond Mill in a fashion that his treatment of production and distribution has not.

Even so, Sidgwick's treatment of wealth in Book One Ch. III has detached itself from Mill, perhaps influenced by the work of Jevons, whose *Theory of Political Economy* is commended as "highly original and important,"[57] hence presumably exempting Jevons from the criticism noted above that most contemporary writers tended to exaggerate their own novelty. Here the difficulties of comparing wealth over time or across space founder on the lack of a common measure of value, and in response resort is made to discussion of the utilities of commodities. But here, Sidgwick notes, the relationship between purchased and unpurchased utilities comes into play; and given the various difficulties presented by this, he introduces the Ricardian solution, that utility should be treated as the sole standard: a man is rich or poor according to the necessaries and luxuries he can command; and if he can get two sacks instead of one, he gets double the quantity of riches, double the quantity of utility. Sidgwick objects:

> But surely any man who got two sacks of corn where he had only counted on one would willingly exchange a great part of the second for things which he would not take in exchange for an equal part of the first: if such an exchange is out of the question, though he might find a use for the second sack it will certainly not be as useful as the first.[58]

And he goes on:

> In fact, as Jevons has admirably explained, the variations in the relative market values of different articles express and correspond to variations in the comparative estimates formed by people in general, not of the *total* utilities of the amounts purchased of such articles, but of their *final* utilities…[59]

Following on from this idea, Sidgwick then raises the point that a given commodity is "more useful when bought by the poor, because the poor have fewer luxuries and therefore get

57 Sidgwick, *Principles*, p. 52.

58 Sidgwick, *Principles*, p. 81.

59 Sidgwick, *Principles*, p. 82.

more enjoyment out of what they have."[60] This raises the awkward point that, if we measure wealth simply by its utility, then the amount of wealth in a given country will be altered by the way in which it is distributed.

Given our present restricted interest in Sidgwick's text, we need only note that the treatment of distribution is largely conventional, dealing with international trade, money, interest, rent and wages, together with comments on monopoly and combination. It is in Book Three that Sidgwick returns to examine the problem raised by his treatment of wealth and utility: if the wealth of a country depends on its distribution among its inhabitants, then government policy with respect to taxation and tariffs can increase or diminish the wealth of a country. Here we can discern the logic in the range of Pigou's early writings: for in this perspective, domestic taxation, customs duties, and general government activity are all part of the same story. Sidgwick approaches these issues by first discussing the "system of natural liberty", emphasising that the prevailing orthodoxy in Britain has not been the simple argument that government should interfere as little as possible with the existing distribution of wealth, but that any such intervention would tend to impair aggregate production more than it could improve utility through better distribution.[61]

While recognising that there is a "large element of truth" in the idea that self-interest creates and keeps "in true economic order the vast and complex fabric of social industry",[62] Sidgwick maintains that it is more relevant for a practical politician to have a clear view of the qualifications to this argument, so that his chapter directs itself to these qualifications and exceptions. His general supposition is that, even in a society contained primarily of "economic men" the system of natural liberty would in particular respects have "no tendency to realise the beneficent results claimed for it."[63] He first examines the distributional implications over succeeding generations of such choices, and then turns to the fact that any one individual will be able, through free exchange, to gain proper compensation for services rendered to society.

> …there are some utilities which, from their nature, are practically incapable of being appropriated by those who produce them or who would otherwise be willing to purchase them. For instance, it may easily happen that the benefits of a well-placed lighthouse must be largely enjoyed by ships on

60 Sidgwick, *Principles*, p. 83.

61 Sidgwick, *Principles*, p. 400.

62 Sidgwick, *Principles*, p. 402.

63 Sidgwick, *Principles*, p. 403.

> which no toll could be conveniently imposed. So, again, if it is economically advantageous to a nation to keep up forests, on account of their beneficial effects in moderating and equalising rainfall, the advantage is one which private enterprise has no tendency to provide; since no one could appropriate and sell improvements in climate.[64]

This observation is then linked to inequalities in distribution and their relation to investment; specifically, that the distribution of skills and the remuneration linked to this could lead it to be profitable for the community to provide cheap technical education, even if private enterprise could not do so. This leads into a general discussion of the ways in which a divergence of private and public interest might arise, and the prospect that this divergence could be ameliorated by the action of government – by direct engagement through the provision of education, or through legislation.

Part Three Ch. III deals with "The Relations of Government to Industry", where "industry" refers to human economic activity in general, and the form of intervention relates to legislation: the enforcement of contrast, child labour, or intellectual property. This is followed by a chapter that details the works that government might promote – roads, canals, railways, postal services, currency and the financial system, immigration and colonisation. This is followed by a chapter on free trade and protection, a general chapter on distributive justice, and then one devoted to the economic arguments for government interference, picking up on the earlier argument concerning the impact of distribution on the measurement of wealth. Having first discussed the impact of various conceptions of socialism and communism, Sidgwick considers the likely effect of minimum wage legislation and, by extension, poor relief and the case for government provision for the sick and infirm, together with the possibility of compulsory health insurance.[65]

There then follows the penultimate chapter in the book, Ch. VIII on "Public Finance", which is placed at this point because

> …most known methods of providing for the expenses of the commonwealth involve important effects both on production and on distribution, and our judgment as the expediency or legitimacy of these effects cannot fail to be influenced by the conclusions adopted on the questions discussed in the preceding chapters of this Book.[66]

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64 Sidgwick, *Principles*, pp. 406-7.

65 Sidgwick, *Principles*, p. 536.

66 Sidgwick, *Principles*, p. 544.

The general argument which Sidgwick introduces here is that they manner in which the government finances its activities has a significant impact on the distribution of utility: that any system of taxation has to be progressive in its impact so that the total utility of the community might be enhanced.

Two years after Sidgwick's *Principles* appeared he gave the Presidential Address to Section F of the British Association, meeting that year in Aberdeen. In the course of his address he described the role of political economy as follows:

> There will probably always be considerable disagreement in details among competent persons as to the propriety of Governmental interference in particular cases; but, apart from questions on which economic considerations must yield to political, moral, or social reasons of greater importance, it is an anachronism not to recognise fully and frankly the existence of cases in which the industrial intervention is desirable, even with a view to the most economic production of wealth. Hence, I conceive, the present business of economic theory in this department is to give a systematic and carefully-reasoned exposition of these cases, which, until the constitution of human nature and society are fundamentally altered, must always be regarded as exceptions to a general rule of non-interference.[67]

And so the development of a consistent way of discriminating between state and society on the grounds of welfare can be attributed Henry Sidgwick; and it was this that Pigou took from him.

During the 1920s the core of Marshall's theoretical heritage came under increasing criticism, such that "Cambridge economics" became identified with Sraffa, Keynes, Kahn and the Robinsons, with Marshall an increasingly distant figure.[68] Although Pigou did not retire until 1944, and lived on until 1959, he has been progressively excluded from the interwar Cambridge tradition. As Professor he could not supervise students, and he lacked Marshall's proprietorial interest in "Cambridge economics and Cambridge economists". He continued writing into the 1950s, but addressing a world beyond Cambridge, where he was progressively marginalised. At least part of the reason for this is generational, and here we need to understand generations in more than a strictly chronological sense. As argued above, Pigou's

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67 Henry Sidgwick, *The Scope and Method of Economic Science*, Macmillan, London 1885 pp. 11-12.

68 Carlo Cristiano has presented a clear account of the manner in which Marshall's core principles were first subverted then "superseded" in the course of the 1920s and 1930s – "Marshall at Cambridge", in Tiziano Raffaelli, Giacomo Becattini, Katia Caldari, Marco Dardi (eds.) *The Impact of Alfred Marshall's Ideas. The Global Diffusion of his Work*, Edward Elgar, Cheltenham 2010 pp. 17-39.

rapid engagement with economics in the early 1900s was dominated by the work of Sidgwick and Marshall, ensuring his formation as a "Cambridge economist" of a sort that would by the 1920s no longer be formed. Both Sidgwick and Marshall presented themselves as synthesisers, but in each case they effected a radical break with the Millian conception of the "scope and method" of the moral sciences to which, for example, Edgeworth never subscribed. Pigou implicitly adopted what was new in Sidgwick and Marshall without carrying the burden of their long years of association with, and gradual detachment from, the influence of Mill. This is clearly in evidence by the way that he can adopt the formalism of Edgeworth and Pareto while advancing Marshall's concern that economics be directed to the amelioration of social problems.

Pigou was then part of a new generation, but this generation was quickly overtaken by a succeeding one. Maynard Keynes was only six years his junior, but he became part of the new Cambridge. Pigou was oriented to Sidgwick; Keynes to Moore, whose *Principia Ethica* was first published in 1903.[69] Keynes had his debts both to Pigou and to Marshall, and he shared with them a conception of economic analysis as an instrumentarium, "an apparatus of the mind, a technique of thinking, which helps its possessor to draw correct conclusions."[70] But not least by virtue of his editing the *Economic Journal*, his formative years were in the 1920s and not, like Pigou, the years preceding the Great War. It is for this reason that, if we are to understand *The Economics of Welfare* as a foundational text, we need to go back to *Wealth and Welfare*, and discount the confusion created in the 1930s as "welfare economics" was created.

The Structure of *Wealth and Welfare*

W & W is devoted to the study of the size, distribution and variability of the "national dividend" which as, Pigou had made clear in his 1907 review of Marshall's *Principles*, was "the flow of economic goods and services made available during the year" and which he there stated to be the centrepiece of Marshall's reasoning. Since it would be more than twenty years before any kind of numbers could be put on this annual output, the argument is necessarily abstract; but the absence of ready estimates of scale and flow is turned to advantage, since Pigou is necessarily compelled to review and evaluate the different qualitative factors underlying what would later be described as "the annual national product, its growth and distribution". The book runs to 488 pages, and comes supplied with a very

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69 Important for an understanding of this context is Daniela Donnino Macciò, "G. E. Moore and Political Philosophy: Gerald F. Shove's Fellowship Dissertation (1911)", *History of European Ideas* in press.

70 John Maynard Keynes, "Introduction to the Series" for the Cambridge Economic Handbooks initiated in 1921.

useful 22-page "Analytical Table of Contents", which however through its length tends to obscure the overall structure of the work. We begin therefore with an elementary treatment of the organisation of the text. There are four unequal parts: following five brief chapters dealing with various issues of definition, Part II forms slightly less than half the entire text in considering factors which contribute to the size of the national dividend, Part III deals with distribution in rather less than a quarter of the total, and Part IV occupies about one-fifth of the main text. Factors affecting the size and distribution of the annual national product thus form the core of the work:

Ch. VIII The Relation between the Causes of Variations and the Variability of the Real Earnings of the Working Classes
Ch. IX Philanthropic and State Action Designed to Lessen the Variability of the Demand for Labour
Conclusion

Part I Ch. 1 begins by citing G. E. Moore's *Principia Ethica*, to the effect that the "good" cannot be defined, and that "welfare" had the same property. However, by considering "economic welfare" it was possibly to arrive at an approximation: that it was

> It is welfare arising in connection with the earning and spending of the national dividend, or, in other words, of those parts of the community's net income that enter easily into relation with the measuring rod of money. (W&W p. 3)

Pigou therefore pragmatically identifies wealth with monetary wealth, and the greater or lesser amount of monetary wealth with economic welfare, equating wealth to welfare and aggregating them as the "national dividend". The purpose of his study is to examine those features which increase or diminish the size of the national dividend, and what factors determine its distribution, and hence the welfare of those with different levels of income. Although in the first chapter Pigou twice quotes Sidgwick, he does not here directly raise the point that Sidgwick had made about distribution – that if one assumed the marginal utility of a sum of money was greater, the less money you had, then redistribution from richer to poorer within any one country would increase the amount of welfare.[71] But the point is made in the following chapter:

> If we assume all members of the community to be of similar temperament, and if these members are only two in number, it is easily shown that any transference from the richer to the poorer of the two, since it enables more intense wants to be satisfied at the expense of less intense wants, must increase the aggregate sum of satisfaction. (W&W p. 24)

The argument is reinforced at the end of the chapter by noting the economic welfare of the "community as a whole is likely to be augmented" if fluctuations are minimised (p. 32). This then sets up the core of the book on the size and distribution of the national dividend: that

[71] Henry Sidgwick, *Principles of Political Economy*, 3rd edition, Macmillan, London 1901 p. 83: "…if we measure wealth simply by its utility, 'amount of wealth' will partly be determined by the manner in which wealth is distributed; and we cannot say how much wealth there is in a country, till we know how it is shared among its inhabitants." Pigou's focus upon monetary wealth initially sidesteps this issue.

1) an increase in the size of the national divided will probably increase economic welfare; 2) an increase in the share accruing to the poor will probably increase economic welfare; and 3) "diminution in the variability of the national dividend" will probably increase economic welfare. (p. 66)

Part II opens with a chapter on "Pareto's Law", citing a passage in the *Cours d'économie politique* that advances evidence showing that reduction of inequality or an increase of low incomes can result only from wealth growing faster than population.[72] Pigou adduces a number of reasons to dispute Pareto's finding, but concluding that no general proposition holds up that improvements in the magnitude and in the distribution of the national dividend are necessarily related. Instead, he considers it important to examine more closely the issue of distribution, to which he turns in the following chapter.

Here Pigou immediately raises the problem that "distribution" as usually understood is distribution among factor of production, whereas he is here concerned with distribution among people, the two not entirely coinciding. However, he goes on, this difficulty can be circumvented by treating the wage-earning classes collectively as "the poor", whose prime factor is in turn labour. This opens the way to another major definition: that factors of production can themselves be divided into labour and non-labour, investigation of improvements to the technical efficiency of each being related, but distinct. (W&W pp. 79-80). This sets up a discussion of diminishing returns and the marginal net product that is continued through the following chapters, but which assumes a principles stated at the end of Pt. II Ch. III:

> In other words, it is *probable* that a departure from equality of marginal net products in all uses, not specially adjusted with a view to making the dividend larger, would, in fact, make it smaller than it would naturally be. In general, therefore, the more nearly equal marginal net products in all uses are, the larger the dividend will be. (W&W p. 108)

Impediments to the realisation of this principle are then discussed in the following three chapters, before in Pt. II Ch. VII dropping the assumption that "the classical doctrine of self-interest" is necessarily valid (p. 148). This is then buttressed by the introduction of a distinction between a social and a private net product (p. 149), which is then discussed in terms relating to consumer surplus, public goods and externalities, no direct reference being made to Sidgwick's introduction of this idea (p. 159); but which then shifts at the end of the

[72] Vilfredo Pareto, *Cours d'économie politique* t. II F. Rouge, Lausanne 1897; new edition ed. G.-H. Bousquet and G, Busino, Droz, Geneva 1964 pp. 305ff.

chapter in a different direction: the analysis of "simple competition" (Ch. VIII), monopolisation Ch. IX), and monopolistic competition (Ch. X). This last consists of three pages only, beginning with a definition – "A condition of monopolistic competition exists when each of two or more sellers supplies a considerable part of the market with which they are connected" (p. 192), mentioning Cournot's treatment of duopoly and concurring with Edgeworth that the level of output chosen by the firm is here indeterminate:

> The output, which at any moment will be most profitable to A, depends on the output which B is undertaking, and *vice versa*. (W&W p. 193)

Having introduced this new term without comment as if it were already quite accepted, he moves in the next chapter to a standard account of the monopoly, moving on to producers' agreements, the problem of railway rates, cartels and the means available to regulate them through taxation, price regulation, and legal regulation (Chs. XIII to XVI), concluding Part II with a treatment of nationalised industries.

Part II of W&W therefore amounts to a discussion of the impact of industrial structure upon the national dividend; the degree to which competitive conditions hold, and whether there are impediments to the operation of self-interest such as the divergences between social and private returns that monopolistic conditions further. Part III proceeds from this point to examine the role of transfers from the richer to the poorer. Here again, there are a number of caveats, but Pigou brushes aside the question of whether transfers to the poor do actually benefit the poor by equating this to the question of whether such transfers are of benefit to the national dividend (p. 294). There follows a long discussion of wages, wage rates, and wage differentials, concluding that seeking to transfer resources through direct interference with wage rates is harmful to economic welfare (p. 343). All kinds of arguments are adduced regarding the inefficiencies arising from transfers from the relatively rich to the relatively poor, before concluding with a distinction between "undeserving" and "deserving" poor (not terms Pigou himself uses). The former includes "those who are morally, mentally, or physically degenerate" (p. 362) for whom nothing much can be done directly save prevent them from "spreading their moral contagion, and of breeding offspring of like character to themselves." (p. 363) Resources will necessarily be transferred to such persons, so that they be cared for humanely, but there will be no return to industrial efficiency from this. By contrast, those "in the early stages of sickness or unemployment and the young in general" (p. 363) will yield "a larger return than is obtainable from investment in machinery" (p. 364) and hence this will augment the national dividend. The following two chapters discuss the effects of an expectation that such transfers will take place on the effects such transfers have, which involves various forms of poor relief and the appropriate design of social policy, before concluding Part III with discussion of a "national minimum", by which is meant a national minimum standard of living (Ch. XIII).

The book concludes with Part IV on "variability" of the national dividend, introduced by recalling the argument from Part I Ch. II that economic welfare was the larger, the more evenly it is distributed. This proposition is then transformed into its corollary, that the welfare of any one representative member of a group of individuals enjoys is the greater, the more evenly that member's consumptions is distributed over time. (p. 401) This opens the way for a consideration of the impact of fluctuations in economic circumstances upon the level of economic welfare, which so far as the working man is concerned, is related chiefly to the risk of unemployment. Conversely, anything which diminishes the variability of consumption brought about through spells of unemployment tend to increases national welfare. (p. 407) The remainder of this part deals therefore with economic fluctuations in terms of variations over time of the income of the worker, and the means of mitigating such variations (p. 522).

This does not however merely take the form of examining various schemes of mutual insurance, as in Ch. II. Ch. IV deals with variations in prices, and launches immediately into a discussion of the supply of and demand for money, currency and banking; Ch. VI deals with harvest fluctuations and their impact of the trade in commodities; Ch. VII with forecasting errors. The final chapter in the book considers the manner in which private philanthropy or state action may also moderate fluctuations: the management of government administration in such a way as to stabilise local demand for labour, rather than subject it to rapid alternations in volume, and encouragement of analogous practises on the part of private firms through, for instance, the imposition of a fixed maximum working time (p. 483). There follows then a very brief conclusion which touches on the relation of economics to the guidance of human affairs:

> If, however, our first reflection touches the difficulty, our second must surely touch the greatness of the practical task, in which students of economic science may make it their ambition to assist. The complicated analyses, which they endeavour to carry through, are instruments for the betterment of human life. (W & W p. 488)

How then was this work received?

The Reception and Critique of *Wealth and Welfare*

Notable in the reception of W & W was that Marshall does not seem to have welcomed it as an extension of his own arguments. His own copy of the book has marginal annotations which show disagreements with Pigou's account of marginal supply price and its behaviour in industries with increasing and decreasing returns – anticipating the arguments over rates of return in competitive industries that would develop in the 1920s.[73] A note on the front end-paper suggests that Marshall had been prompted to read and comment upon W & W by the criticisms that Hobson made of it in his *Work and Wealth*.[74] However, what today seems striking about Marshall's comments is his apparent lack of interest in the general project upon which Pigou was engaged, and the approach he adopted.

A. W. Flux, one of Marshall's former students, was more magnanimous, opening his review by asking "What light can modern economic analysis throw on the great question of the relation of private wealth to public welfare? This is substantially the problem treated in Professor Pigou's new book, and the subject has so many sides that the book which treats it becomes almost a treatise on modern economics."[75] As befits his interests, Flux first made some specific comments regarding some of the data adduced by Pigou, but he did in passing note the curiosity of the use of diagrams with both a supply curve and a marginal supply price curve, noting the need for some clarification about how these related to conditions of increasing and decreasing returns. He made little of this point, but, together with Hobson and Marshall himself, it is notable that this aspect of the work was picked up rather than, for example, the development of arguments advanced by Cournot and Edgeworth relating to "competition among the few" and Pigou's apparently novel coinage: monopolistic competition.

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73 Krishna Bharadwaj, "Marshall on Pigou's *Wealth and Welfare*", *Economica* Vol. 39 (1972) p. 39.

74 J. A. Hobson, *Work and Wealth* (1914), Routledge, Abingdon 1992 p. 110 fn. 1: "Professor Pigou (*Wealth and Welfare*, p. 176) though adopting the general position of marginalism, makes a concession, as to its applicability, which is a virtual admission of its futility. For, by showing that only in 'industries of constant returns' are 'supply price' and 'marginal supply price' equal, and that in industries of 'decreasing' or of 'increasing returns' there exists a tendency to exceed or fall short of the 'marginal net product yielded in industries in general' he virtually endorses the criticism that 'marginalism' assumes a statical condition of industry. For only in a statical condition would all industries be found conforming to constant returns: the operation of increasing or diminishing returns means nothing else than that changes in volume or methods of production are raising or lowering productivity and remuneration above or below the equal level which 'marginalism' desiderates."

75 Review in *Journal of the Royal Statistical Society* Vol. 76 No. 2 (January 1913) pp. 227-30. Flux comments on the analytical table of contents (p. 228) and refers readers to it for a summary of the structure of the argument.

The review of W & W that has drawn most attention was that by Allyn Young in the *Quarterly Journal of Economics* for August 1913.[76] Young opened with a reminder that Pigou's interest in the "national dividend" went back to his review of the fifth edition of Marshall's *Principles*, linking the book clearly to Marshall but also making clear that Pigou was here extending Marshall's own work. Young considers the "most unsatisfactory"[77] part of the work the treatment of population, that is, the impact of changes in population on the distribution and magnitude of economic welfare. Perhaps this issue was more obvious to an American economist, given the waves of immigration that were still transforming the US economy; but it is no less true that it represents a serious weakness in Pigou's analysis, given also that the coming war would transform the British labour force, and seriously reduce the French interwar population through wartime casualties and a persistently low birth rate. That was of course still in the future; but Young raises here a point that would very quickly become a central concern of economists and policymakers, and render the framework presented in W & W in need of revision.

Next Young directs attention to the two central sections of the book: the discussion of business organisation in Part II; and the impact upon real incomes of attempts to improve the distribution of the national dividend discussed in Part III. In respect of the first he immediately raises the issue of Pigou's treatment of marginal supply prices, which he properly notes had already been discussed in his earlier article "Producers' and Consumers' Surplus". Rather than simply make detailed criticisms as Marshall himself was to do, and which would later dominate the subsequent discussion of returns to scale, Young instead takes three pages to reconstruct Pigou's argument in such a way that a clear result follows:

> This means, of course, that in competitive industries of diminishing returns investment tends to be pushed too far, and in competitive industries of increasing returns, not far enough, to secure that equality of marginal net products which makes the national dividend a maximum.[78]

Pigou here had suggested that the equality of marginal net products might be increased by taxing industries with diminishing returns, while providing subsidies to industries with increasing returns, the only instance in W & W where the incidence of taxation had been considered. But more significant in the above passage is that this "too far" and "not far enough" turned out to be hostages to fortune for postwar economists who sought to establish

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76 Allyn Young, "Pigou's Wealth and Welfare", *Quarterly Journal of Economics* Vol. 27 No. 4 (August 1913 pp. 672-86.

77 Young, "Pigou's Wealth and Welfare", p. 674.

78 Young, "Pigou's Wealth and Welfare", p. 680.

just "how far" this might be, and whether this did not in fact conceal a failure of analysis. Young's balanced account of these issues continued until almost the end of the review, concluding with some remarks on Part III which "constitute what is beyond question the best discussion to be found anywhere of the economic principles involved in this new social program."[79] He concludes by noting the practical (Marshallian) cast of Pigou's work:

> Nowhere do the advantages of the particular kind of economic theory in which Professor Pigou is an adept appear more clearly. Theory of this sort (if I may characterize it briefly) is not concerned with the vain attempt to formulate concepts so general and abstract that the whole economic process may be viewed as a relatively simple mechanical system. The purpose is, rather, that the fabric of theory shall be a yielding garment, fitting the varied and complex reality of economic life as closely as is demanded by the criterion that the conclusions to which the theory leads shall be both useful and general.[80]

Young's stance was therefore balanced; he did not consider the returns to scale problem to be the major problem with the work, but he did devote the most attention to it since it was the one most amenable to discussion. Moreover, his closing endorsement of the Marshallian cast of Pigou's approach was one that would quickly become lost in the 1920s.

There was however one other significant review, published in the *Economic Journal* in March 1913. Edgeworth here expressed the same kind of enthusiasm for Pigou's work that he had almost ten years before in reviewing *The Riddle of the Tariff*. Importantly, in the third sentence of his review he presents something of an intellectual equation: Sidgwick + Marshall = Pigou:

> The good which philanthropy and statesmanship should seek to realise is defined by him in accordance with Sidgwick's utilitarian philosophy; to investigate the means conducive to that end he employs the methods perfected by Dr. Marshall.[81]

He then demarcates Pigou's approach to welfare from both Mill's psychology and T. H. Green's metaphysics – "Much of our author's philosophy recalls Sidgwick's utilitarianism."[82]

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[79] Young, "Pigou's Wealth and Welfare", p. 685, referring to recent British social legislation.

[80] Young, "Pigou's Wealth and Welfare", p. 686.

[81] F. Y. Edgeworth, Review of Pigou, *Wealth and Welfare*, *Economic Journal* Vol. 23 No. 89 (March 1913) pp. 62-70; here p. 62.

[82] Edgeworth, Review of Pigou, p. 62.

And he reinforces his equation by making an explicit link to Sidgwick in respect of the relation of equality of distribution and the enhancement of economic welfare:

> …we may conclude with Sidgwick that the more equal distribution of wealth tends to increase welfare. To diminish inequalities in the distribution of the national dividend (among the members of the nation) is accordingly one of the modes of welfare of which Professor Pigou investigates the conditions in one Part of his treatise. To diminish inequality of distribution in *time* is the proximate end to which another Part is directed. Much the longest of the separate Parts is directed to the increase of the national dividend. In investigating causes conducive to these proximate ends Professor Pigou brings to bear a mass of facts and a power of reasoning which in their combination find a parallel only in the *Principles of Economics*.[83]

Edgeworth concedes that he cannot discuss the more inductive parts of the work, since this is too diffuse; but he does single out Pigou's comment (W & W p. 239) to the effect that historical examples can bear little argumentative weight as compared with analytical study. He also draws attention to the importance of assumptions and deductions of a classical kind buttressed by historical cases, and the relation to this of mathematical reasoning. It is not until the fourth page of the review that he passes from these broadly methodological considerations to the "curve of marginal supply prices", probably included however among those "more technical matters which we cannot hope to make interesting to the general reader."[84] But Edgeworth merely notes that this is related to the principle that the more nearly equal marginal net products are, the larger the dividend is likely to be, which is itself "one of the splendid novelties occurring in this treatise the importance of which a reviewer cannot be expected upon short notice to gauge accurately. It is certainly of great interest."[85] He then passes directly to the shape of demand curves, and so entirely passes over the issue to which Young would devote his own review. By contrast, he spends almost two pages discussing the manner in which Pigou employs probabilistic causal reasoning. He also notes Pigou's failure to refer to Sidgwick's "masterly" treatment in *Principles of Political Economy* Part III of the divergence between private and social interest,[86] but doe not note that Pigou diverts this more into the domain of industrial organisation rather than deal with it as an issue confronting what we now know as public economics.

83 Edgeworth, Review of Pigou, p. 63.

84 Edgeworth, Review of Pigou, p. 65.

85 Edgeworth, Review of Pigou, p. 65.

86 Edgeworth, Review of Pigou, p. 68.

Edgeworth closes his review with remarks about Pigou's underestimation of "authority", which he describes as the location of his principal difference with Pigou. Chiding Pigou for not giving due weight to arguments advanced by Taussig and Hadley, he endorses the "… Aristotelian doctrine that we ought to attend to the unargued pronouncements of the practically wise, who have acquired by experience a certain power of mental vision."[87] Which is not a line of thinking that would otherwise today be associated with Edgeworth as the leading theoretical economic of his time.

John Maurice Clark also reviewed the work briefly in the new *American Economic Review*,[88] but it can be seen that it was Pigou's arguments related to rates of return that attracted the most attention at the time, and which would be taken up again in the wake of the publication of *Economics of Welfare*. However, what we can establish from the foregoing is another negative: judging by these reviews, the revisions to *Wealth and Welfare* that resulted in the composition of *Economics of Welfare* were not promoted by the critical reception of the former.

<u>The Construction of *Economics of Welfare*</u>

Pigou explained in the "Preface" to EW that revisions to W & W had grown so extensive with additions from earlier work that it had become "essentially and independent book." (EW p. v) As we shall see, this is not really true; instead of the four parts of W&W, EW is divided into six, with two new sections appearing: "Part III The National Dividend and Labour", which shoehorns most of the 1905 *Principles and Methods of Industrial Peace* into the text, with additions; and "Part IV The National Dividend and Government Finance" which introduces new material on taxation and government debt. However, these only account for around 320 additional pages, so there are a great many other additions to the text. Contrary to what might be thought, in 1920 material is largely added to the 1912 text, with revisions made throughout.

EW runs to 954 pages of text, almost twice the length of *W & W* and, like that work, with an analytical table of contents stretching in this case to 28 pages.

Part I Welfare and the National Dividend pp. 1-108

Ch. I Welfare and Economic Welfare

Ch. II Desires and Satisfactions

Ch. III The National Dividend

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87 Edgeworth, Review of Pigou, p. 70.

88 *American Economic Review* Vol. 3 No. 3 (September 1913) pp. 623-5.

The opening chapter shares its title with the former work, but is recast as a discussion of nature and purpose of economic analysis. In W & W the measurement of economic welfare had been derived from a discussion that sought first to distinguish psychic from material satisfaction, and hence place economic welfare with respect to welfare in general. Once this had been done, it then became necessary to argue for money as the appropriate measure of the latter, as a measure of the degree of satisfaction of wants (W&W pp. 8-9). In EW this route is discarded: Pigou moves directly from the scientific status of economics to a simple assertion that economists study that which can be measured with money, and call it the study of economic welfare. No direct reference to the importance of the national divided is made in this opening chapter; instead the work is presented as follows:

> …though no precise boundary between economic and non-economic welfare exists, yet the test of accessibility to a money measure serves well enough to set up a rough distinction. Economic welfare, as loosely defined by this test, is the subject matter of economic science. The purpose of this volume is to attempt a partial study of the causes affecting economic welfare in actual modern societies. (EW p. 11)

This chapter is also now 22 pages, in pace of 13 in W & W, and this is itself suggestive; the terse matter-of-factness noted by Edgeworth and Young has given way to a more digressive, and less lucid, style of writing. The second chapter discusses desires and satisfactions, while the third raises directly the question of "national dividend for the first time. But any direct comparison between the two texts of these opening chapters does suggest that Pigou's early simplicity and directness has deserted him. Part I has been extended from 67 to 108 pages without the addition of any especially new arguments.

Part II does not at first sight appear to have been materially changed as regards the material, its order and presentation, save in one important respect: the formal discussion of industrial organisation is now initiated from Ch. IX "The Conditions of Monopolisation", omitting here entirely the chapter which had preceded it in W & W, Ch. VIII "The Equality of Marginal Net Products in Different Uses under Simple Competition" – which is the chapter containing the material on rates of return to which Young had drawn attention and to which Hobson had taken exception. All this is abolished to Appendix III. Instead, the opening paragraph of EW Ch. XI provides a summary of simple competition focussing on the property of price-taking, citing Pareto,[89] moving directly from that property to the conditions for price-making behaviour.

Part III inserts the bulk of his 1905 text, *Principles and Methods of Industrial Peace*, reorganising and augmenting it, opening with a chapter on "Industrial Peace" which considers the diminutions to welfare brought about by strikes and lock-outs, here again deviating considerably from the clear line of argument in W & W, where following the discussion of industrial organisation the discussion moved directly to factors directly affecting wages and incomes, and not to consideration of labour relations themselves.

89 EW p. 218 citing Pareto, *Cours* t. I p. 20.

Part IV is also an entirely new addition, and one that is easier to relate to the overall issue of economic welfare: taxation and its incidence, something that was not examined at all in W & W except in passing in connection with the discussion of rates of return. The general principle is stated as follows: taxation

> ...creates the expectation of taxation, and this expectation often, though not always, tempts people to modify their conduct with a view to avoiding the threat of a tax. How far they are tempted to act in this way, and how far, therefore, the national dividend in injured, depends upon the objects through which taxation is assessed. (EW p. 599)

It can be suggested here that the proximate cause for the addition of a discussion of taxation was the consequence of the First World War, which had entirely disrupted the existing system of taxation and so highlighted the problem that the manner in which the state raised its taxes had a major impact upon economic activity. However, this was not an entirely new area of thinking; Bastable had first published his *Public Finance* in 1892, and by 1903 this had reached its third edition. Drawing a clear link in his introductory chapter with contemporary German writings on Finance, Bastable emphasised that the growth of the state had necessarily increased its need for finance and consequently, the impact which such needs had on different groups in society.[90] Pigou does not however refer to Bastable's work at all, in the first two chapters of the Part referring to no sources, and referring to Seligman in passing when introducing his discussion of income tax. (EW p. 625).

Part V is a relatively unmodified version of W & W Part III, introducing the former Part II Ch. I on "Pareto's Law" here, adding however a more critical comment. (EW pp. 699-700, cf. W & W p. 77) Part VI bears the same title as the final part of W & W, but has been radically reworked. Whereas in W & W the economic cycle was assessed with respect to its impact upon incomes and also in respect of unemployment, Pigou here embarks an appreciation of business cycles independent of any impact upon incomes as such; again, an approach which is so much at odds with the general discussion of economic welfare that it was excised in later editions and converted into an independent book, *Industrial Fluctuations*.[91]

Provisionally, therefore, we can establish that, aside from the insertion of new material on taxation, Pigou's reworking of *Wealth and Welfare* was problematic, and would undergo further radical revisions before reaching its fourth edition in 1932.

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90 C. F. Bastable, *Public Finance*, 3rd edition, Macmillan, London 1903 p. 9.

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