

THAT WHICH IS DESIRED, WHICH PLEASES, AND WHICH SATISFIES: UTILITY ACCORDING TO ALFRED MARSHALL

BY
ROZENN MARTINOIA

“The Pure Science of Ethics halts for lack of a system of measurement of efforts, sacrifices, desires etc., fit for her wide purposes. But the pure science of Political Economy has found a system that will subserve her narrower aims.”

Alfred Marshall (1876)

In the period of the marginal revolution in England, utility was traditionally defined in reference to either desire or pleasure. William Stanley Jevons, for example, referred to pleasure. According to Jevons, utility was “actually identical with the addition made to a person’s happiness,” that is to say to “the sum of the pleasure created and the pain prevented” (1871, pp. 53–54). Henry Sidgwick, Alfred Marshall’s “spiritual father and mother,”¹ criticized this “Benthamist” perspective (Sidgwick 1883, p. 63) and introduced another definition at Cambridge. “By utility of material things,” Sidgwick stated, “we mean their capacity to satisfy men’s needs and desires” (1883, p. 84, emphasis added). Marshall, for his part, repeatedly moved from one meaning to another. In the first edition of his *Principles of Economics*, the term “utility” alternatively designated desire or pleasure. Few commentators have noted this double meaning of utility (Homan 1933, p. 224; Stigler 1950, p. 384; Guillebaud 1961, pp. 236–37; Aldrich 1996, p. 211).² Only Arthur Cecil Pigou (1903) and Jacob Viner (1925, p. 647–49) have

P. H.A.R.E. Université Paris 1 Panthéon-Sorbonne, Maison des Sciences Economiques, 106–112 Bd de l’Hôpital, 75647 Paris Cedex 13, France.

¹ “Though not his pupil in name, I was in substance his pupil in Moral Science . . . I was fashioned by him. He was, so to speak, my spiritual father and mother.” Marshall, *Meeting for a Sidgwick Memorial*, Trinity Lodge, Nov. 16, 1907, quoted by Keynes (1924, p. 7). The statement is of course contextual—Sidgwick had just passed away—and masks disagreements that arose between the two men. Nonetheless, Sidgwick’s influence on Marshall, between 1867 and 1877, is undeniable (see Skidelsky 1983, pp. 26–50; Groenewegen 1995, pp. 109–13).

² Homan, Stigler, and Aldrich have briefly pointed out the double meaning of utility in Marshall’s thought. Guillebaud cited several eloquent excerpts from the *Principles* with respect to this, without however proposing to explain them. In his *History of Modern Economic Analysis*, Backhouse dedicated a section to “the meaning of the term utility,” but did not mention the dual character of the Marshallian meaning for the term (Backhouse 1985, p. 132).

ISSN 1042-7716 print; ISSN 1469-9656 online/03/030349-16 © 2003 The History of Economics Society
DOI: 10.1080/1042771032000114764

actually brought out its theoretical implications. No explanation as to the prevalence of this duality or its status in Marshall's welfare economics seems to have been proposed. Such is the intention of this article.

I believe the origin of the duality of Marshallian utility lies within the limits of the field of possibilities of measuring mental states like pleasure or desire. The problem is that whereas *desire* has an outward manifestation in the economic field—demand price—*pleasure* has none. Yet, measuring *pleasure* was the aim of (one of) Marshall's theoretical project(s). The solution Marshall proposed consisted of assuming that the monetary measure of the intensity of a desire also accounts for the intensity of the pleasure resulting from its fulfillment (section 1). This is, in sum, the reason why in Marshall's thought, desire, and pleasure converged in the same concept: utility. However, the legitimacy of this process is contingent upon adherence to psychological hedonism: following Jeremy Bentham, it is necessary to assume that only the expectation of pleasure is capable of stimulating a desire. Yet, Marshall—if it is possible to overcome the ambiguity of his youthful writings—located himself on the side of opponents of this explanatory principle of human actions. Thus, in Marshall's first editions of the *Principles of Economics*, a contradiction emerged between premises (one can desire something else than pleasure) and final result (pleasure shall always be measured by desire). In other words, on the one hand Marshall argued that psychological hedonism was an unrealistic principle while, on the other hand, he seemed to measure utility as if psychological hedonism were true. His measure of utility also was open to the criticism that it lacked consistency. However, Marshall did not let this impede his research program. In the subsequent editions of his *Principles*, following a practical aim, he tried to smooth the incoherence of his welfare economics in two ways. On the one hand, he restricted the actions for which his measure of utility is significant. On the other hand, he expanded the motives of human action. Nevertheless, Marshall dodged the problem more than he resolved it. His utility theory, from an analytical point of view, was still open to the same kind of internal assessment. In Marshall's thought, utility, from a quantitative point of view, could not be equal to an amount of both desire and pleasure (as was suggested in the first editions of his *Principles*), nor could it be equal to an amount of both desire and satisfaction (as was suggested in the final editions). However, from a semantic point of view, Marshall's thought was rigorous: at no time did Marshall use the two meanings of utility in an arbitrary or confused way. The duality of utility was the semantic manifestation of the obstacles encountered by Marshall in welfare economics. It was also the structure of the analytical system (open to criticism) that Marshall proposed in response to these obstacles.

I. THE MEASURE OF MENTAL STATES: AN OVERVIEW OF THE PROBLEM

According to Marshall, due to their intensive quality, mental states are not directly measurable.³ “It cannot be too much insisted that to measure directly

³ Marshall's cardinalism might be described as moderate. Utility shall be measured in a cardinal way, but this measure is indirect. I agree with Ormazabal (1995, p. 115) that Marshall did not think mental state could be measured *per se*. My opinion is grounded both on textual evidence and on its

or *per se*, either desires or the satisfaction which results from their fulfillment is impossible, if not inconceivable” (Marshall 1920, p. 78). This statement applies both to the observer, here the economist, and to the actor who is feeling these mental states. However, the theoretical and practical impossibility of directly quantifying a state of mind does not eliminate resorting to an *indirect* evaluation “through its effects” (Marshall 1920, p. 13).⁴

This indirect quantification of mental states is framed in a causal sequence that is summarized as desire-action-pleasure. According to Marshall, needs create desires, which express themselves in a significant way for the economist, that is to say “in such a form that the force or the quantity of the incentives can be estimated and measured with some approach to accuracy” (Marshall 1920, p. 12). In particular, the intensity of a desire is revealed by the quantity of money the individual is willing to give up for its realization. Thus:

[n]early all actions of life are governed, at least in part, by desires the force of which can be measured by the sacrifice which people are willing to make in order to secure their gratification: this sacrifice may take many forms . . . But in our world [this sacrifice] has nearly always consisted of the transfer of some definite material thing which has been agreed upon as the common medium of exchange, and is called “money” (Marshall 1890, p. 151).

In other words, the quantity of money, or the “demand price” that an individual will accept to pay, measures “the desirability . . . of a thing to a person” (1890, p. 151).

Marshall indirectly evaluated a desire through the intermediary of money. The question whether the bias thus introduced was or was not negligible (the problem of the constancy of the marginal utility of money) has been the object of an extensive discussion in the economics literature. The criticisms put forward in this debate should be kept in mind. However, I would like to focus on an analytical difficulty that has been overlooked. Marshall’s analysis could be jeopardized by the inclusion of another bias, prior to the elements emphasized in the constancy debate: the use of one mental state (and of its monetary

consistency with Marshall’s intellectual background (particularly the influence of Henry Sidgwick at Cambridge). I admit that Marshall’s words are sometimes ambiguous. For example, Marshall affirmed at the beginning of his *Principles* that “[n]o one can compare and measure accurately against one another even his own mental states at different times . . . the pleasures which two persons derive from smoking cannot be directly compared: nor can even those which the same person derives from it at different times” (Marshall 1920, p. 13). The end of the two sentences (“at different times”) could suggest that, for the same individual, contemporaneous comparisons of mental states are possible. Yet, I do not share this interpretation of Marshall. It focuses on the problem of the *possibility* of a *direct* measure, whereas according to me Marshall’s purpose, in the paragraph from which the quotation is extracted, related to the problem of the *accuracy* of an *indirect* measure. Marshall explained that most of the time this indirect measure “is necessarily to some extent conjectural.” This reading may be open to discussion. Nevertheless, whatever may be the right interpretation, it does not question the rest of my argument in this paper. Even if mental states were measurable *per se*, the problem of their outward manifestation in the economic field would still arise.
⁴ This refers to Pigou’s interpretation of Marshall’s assertion, according to which “to measure directly or *per se*, either desires or the satisfaction which results from their fulfillment is impossible, if not inconceivable” (Marshall 1920, p. 78). Pigou thought that “impossible” meant impossible in practice and “inconceivable” meant impossible in principle (Pigou 1953, p. 40).

measure) to quantify another. After all, Marshall did not evoke money or demand price as measuring a desire pre-existent to a market transaction, but rather as measuring the pleasure resulting from this market action. Moreover, Marshall did this without specifying what allowed him to make this substitution: “If the desires to secure either of two pleasures will induce . . . men in the same rank of life and with the same means each to pay a shilling for it; we may then say that those pleasures are equal for our purposes, because the desires for them are equally strong incentives to action for persons under similar conditions” (1920, p. 13). Marshall thus deduced the equivalence of two pleasures from the equality of the measurement of the desires that are associated with them. We will overlook the fact that moreover, in this quotation, Marshall is making an interpersonal comparison. However, in spite of Marshall’s self-confident tone, the coherence of substituting pleasure for desire is open to doubt. From an ordinal perspective, it would suffice to show that, for the same individual, the passage from desire to pleasure follows a strictly increasing function, preserving *ex-post*, in the range of pleasures, the preferences ranking of *ex-ante* desires. If this condition is necessary, it is nonetheless insufficient to confirm Marshall’s theory, since he attempted to quantify mental states in a *cardinal* way. The validity of his measurement thus depended upon the following condition: the intensity of the result of the market action (pleasure) must always be identical or proportional to the intensity of its cause (desire).

II. THE OBJECT OF DESIRE: AN INQUIRY INTO THE MOTIVES OF HUMAN ACTION

Investigating the relationship between desire and pleasure leads one to examine the explanatory principle of human actions. It is possible to systematically deduce the intensity of a pleasure on the basis of the intensity of the desire that precedes it, as Marshall did, provided that psychological hedonism is the explanatory principle of human action: if I desire *only* my own pleasure (this does not exclude benevolence),⁵ then its intensity will be, except in the case of an error in expectation, proportional to the desire that I previously had for it. This necessary condition is none other than the behavioral premise of Bentham’s utilitarianism.⁶ Can this be attributed to Marshall? The links between Marshall

⁵ Psychological hedonism takes into account the pleasures of *benevolence*. According to psychological hedonism, benevolent actions are realized in so far as they contribute to the personal pleasure of the actor (that is, being not benevolent would have been painful). However, it rejects the possibility of *altruism*, that is of self-sacrifice (which is, on the whole, more painful than pleasurable).

⁶ It is often overlooked that, for Bentham, this reductionism resulted more from a theoretical assumption than from a psychological truth. In his *Introduction to the Principles of Morals and Legislation*, Bentham conceded that it “is a pleasure, pain, or other event, that prompts to action (. . .) the idea of pleasure, of pain, or of any other event, can give birth to it” (Bentham 1789, p. 98, emphasis added). The ultimate goal of human actions was thus not reducible to the mere search for pleasure. In the same way, in *Deontology*, when Bentham indicated that “to acquire for future some means of enjoyment more than he is in possession of, is the aim of every man,” he added: “[n]ot perhaps in the character of a universal proposition, true: but *for argument sake*, be it so” (Bentham 1834, p. 132, emphasis added).

and Benthamism were ambiguous. At first sight, his views are difficult to ascertain. For this reason, prior to answering this question, it might be expedient to first review Henry Sidgwick's and Arthur Cecil Pigou's comments on psychological hedonism, the former being Marshall's elder and the latter his student at Cambridge. Their views reflect Marshall's intellectual background and may help to clear up the ambiguity of his thought.

The Father and the Son: Sidgwick and Pigou on Psychological Hedonism

Sidgwick (1874, p. xx) claimed affiliation with the utilitarian tradition. However, Sidgwick held a unique position in the history of this intellectual trend initiated by Jeremy Bentham, because he spoke out against its foundational assumption, psychological hedonism. Sidgwick denied that pleasure was the sole object of human desires. Certainly, he admitted that "[m]ost men would say that whatever they desired was always something pleasant in prospect" (Sidgwick 1872, p. 665), and furthermore, "where there is a strong desire in any direction, there is commonly keen susceptibility to the corresponding pleasures" (Sidgwick 1872, p. 669). But these statements do not imply that *only* the prospect of these pleasures is likely to give rise to a desire or, in other words, that desire is directed *only* toward seeking pleasure. There are situations in which "men not only desire but are actually impelled to do what . . . they know will cause them more pain than pleasure on the whole" (Sidgwick 1872, p. 665). The theory of psychological hedonism, according to Sidgwick, "cannot be supported by the results of external observation and inference" (1874, p. 53); it does not match up with the complexity of human nature. In consequence, according to Sidgwick, one will not find a law permitting the estimation of the intensity of a pleasure on the basis of the intensity of the previously experienced desire.

Pigou agreed. In the same vein, he contended that "psychological hedonism . . . is an untenable and exploded doctrine. We do not only desire pleasure, but numerous other things as well" (Pigou 1903, p. 67). And consequently:

as it is granted that we may desire other things besides pleasure, we are no longer entitled to say that the intensity of our desires and the pleasures we expect from their satisfaction are *necessarily* proportionate to one another. The satisfaction of all desires, whether they be directed towards pleasure or towards anything else, is, of course, generally pleasurable, but when the desires are "disinterested," there seems no reason for assuming a constant relation between their intensity and the quantity of pleasure, that, as a matter of fact, does, or, if it is thought about at all, is expected to accompany their satisfaction (Pigou 1903, p. 68).

Sidgwick and Pigou denied that personal pleasure is the sole object of desire. Therefore they seriously discredited Marshall's argument, which consisted of evaluating a pleasure on the basis of the monetary measure of the intensity of the desire that precedes it. Except if one is to believe that Marshall accepted psychological hedonism . . . in which case, the criticism of his colleagues would be extraneous and would not refute the inherent logic of his substitution of pleasure for desire.

Marshall and Psychological Hedonism: The Explanation of Some Ambiguous Connections

Had Marshall supported psychological hedonism, the implicit relationship between desires and pleasures in his writings would not have been problematic. Yet, can one reasonably believe that Marshall's psychological premises so greatly diverged from those both of Sidgwick, his "spiritual father" (Keynes 1924, p. 7), and of Pigou, his student? The fact remains that at the time of the publication of his *Principles of Economics* in 1890, Marshall's commentators generally considered that he supported psychological hedonism. How was such an interpretation possible? Answering this question makes clear both Marshall's method and his ambiguous links with Benthamite utilitarianism. A more in-depth and comparative reading of the various editions of the *Principles* confirms Marshall's rejection of hedonism. However, at the same time, it logically should invalidate his measurement of utility. Therefore, Marshall introduced some changes in his theory in order to try to maintain the coherence of his analytical system without renouncing his convictions on the motives of human action. Yet, the way he solved the problem is questionable.

The Hedonist Flavor of the First Edition of the Principles: Just a Hint or a True Essence?

A note, introduced in the third edition of the *Principles* in 1895, testifies that Marshall's thought at that time was associated by others with the hedonist behavioral assumptions of utilitarianism and shows the author's resulting trouble. "It has however unfortunately happened that the customary uses of economic terms have sometimes suggested the belief that economists are adherent to the philosophical system of Hedonism or Utilitarianism," complained Marshall (1895, p. 78; 1920, p. 14). But he confessed at the same time that:

they [economists] have generally taken for granted that the greatest pleasures are those which come with the endeavor of one's duty, they have spoken of "pleasures" and "pains" as supplying the motives to all action; and they have thus brought themselves under the censure of those philosophers with whom it is a principle to insist that the desire to do one's duty is a different thing from a desire for the pleasure which, if one happens to think of the matter at all, one may expect from doing it (Marshall 1895, p. 78; 1920, p. 14).

We take this to mean that Marshall counted himself among the "economists" to whom he referred in the preceding quotation. This note thus implicitly applied to his conceptions of human nature. It also constituted a confession: Marshall acknowledged the confused quality of his own language and admitted that it could have suggested certain ties with the traditional premises of Utilitarianism.

If Marshall's repentance is to be trusted, the hedonist interpretations of his critics would be a misunderstanding resulting from his semantic awkwardness. One can nonetheless wonder about the importance of hedonist terminology in the first version of the *Principles*. Was it indeed, as Marshall claimed, a simple effect of language, some "verbal jokes" (Marshall 1893, p. 388)? Couldn't it

rather be the sign of a perspective (the adherence to psychological hedonism) that Marshall would revise later on? My point will be that, though there are grounds for these perspectives, none of them is actually relevant.

In the preface of the first edition of the *Principles*, Marshall took care to underline that the motives of human action are not reducible to the arbitration between pleasure and pain (Marshall 1890, p. vi), as the defenders of hedonism allege. However, the more the reader advances in the text, the more this initial perspective diminishes, whereas the hedonist terminology increases. Yet, overall, this is neither awkwardness nor an uncontrolled deviation of language. The words Marshall used here are concepts that derive from a theoretical presupposition: the adoption of psychological hedonism. Should one conclude that Marshall, in the course of the same work, modified his opinion concerning hedonism? Not exactly. In fact, the explanation of the change in Marshall's discourse and, consequently, the explanation of the status of hedonism in his thought has to be related to his conception of *science*.

The *science* of economics is what was at stake for Marshall.⁷ According to him, political economy, as a science and particularly a social science, studies that part of human behavior governed by motives sufficiently stable to be reduced to laws and to be measurable (Marshall 1890, pp. 78, 95). Now, only the egotistical hedonist motives possess this characteristic. *A priori*, these do not deserve "more consideration than others ... in so far as they may be more easily measurable and may more easily have a money price assigned to them" (Marshall 1885, p. 161). Yet, such is the case. Therefore, as they allow Marshall to believe that "an opening is made for the methods and the tests of science" (Marshall 1920, p. 13), the motives summed up in psychological hedonism finally emerge as dominant.

It would thus be erroneous to say that Marshall, in the core of the first edition of his *Principles*, contradicted his preliminary claims: *nowhere in his book does Marshall share the psychological assumptions of Benthamism*. His position is subtler. The apparently versatile character of his thought on this point resulted from the incompatibility between his conceptions of human nature and his theoretical or scientific demands. On the one hand, Marshall displayed refined behavioral assumptions, and on the other he chose to focus *solely* on the human actions governed by the principle of psychological hedonism, because as a quantitative feature they fitted the "scientific machinery" (Marshall 1920, p. 13). However, Marshall persisted in considering psychological hedonism as *one* and not as *the* explanatory principle of human actions. In other words, contrary to Bentham, who extended the influence of this principle to all human actions in order to obtain a universal theory, Marshall, refusing to postulate the universality of hedonism, limited the validity of his theory to those decisions that are actually, and not hypothetically, determined by hedonism. However, it would be fruitless to search for an exhaustive list of these actions in the *Principles*. It is thus not certain that, on the substance, the method of the Cambridge professor deserves less criticism than that of Bentham. In addition, it remains no less frail in its form.

⁷ The conviction that political economy is a science appeared in Marshall early work (see for example, Marshall 1872; p. 126; Marshall 1874, p. 180) and was newly put forth on the first page of the preface of the first edition of his *Principles* (Marshall 1890, p. v).

Nature and Consequence of the Modifications Introduced in the Successive Editions of the Principles

At the time of the first edition of his *Principles of Economics*, Marshall was associated with a doctrine to which he did not adhere: he was obviously considered by his readers as an advocate of psychological hedonism and, as a matter of fact, as a disciple of Bentham. Actually, Marshall never thought that pleasure was the sole object of desire. Hence, in the third and subsequent editions of the *Principles*,⁸ he modified both the content and the form of his words, so that they were no longer interpreted as “Utilitarian manifestos” (Whitaker 1996, vol. 2, p. 392). Against hedonism, Marshall quoted the *Prolegomena to Ethics* of T. H. Green⁹: “The pleasure to be derived from doing one’s duty ‘cannot be the existing cause of the desire . . . When the idea of which the realisation is sought is not that of enjoying any pleasure, the fact that self-satisfaction is sought in the effort to realize the idea of the desired object does not make pleasure the object of desire [.]’” (Marshall 1895, p. 78).

Consequently, Marshall expanded the object of human desires fitting his economic measure. In the first edition of the *Principles*, only desires for pleasure could be measured. In the third and successive editions, the economic measure concerned the broader desires for satisfaction. The changes were both semantic and analytical. Marshall specified that “all incentives to action, in so far as they are conscious desires at all, may without impropriety be spoken of shortly as desires for ‘satisfaction’, it may perhaps be well to use this word instead of ‘pleasure’ when occasion arises for referring to the aims of all desires, whether appertaining to man’s higher or lower nature” (Marshall 1895, p. 54; 1920, pp. 14–15). Basically, the use of hedonist terms was massively reduced. The word “pain” was largely suppressed (Guillebaud 1942, p. 342). In numerous sentences, “satisfaction”¹⁰ or “benefit”¹¹ were substituted for the word pleasure. When the latter was still used, Marshall lessened its hedonist connotation by associating it with one of the former (less suggestive) words, using the expression “pleasure or other satisfaction”¹² or “pleasure or other benefit.”¹³

Thus, in the third edition of his *Principles*, Marshall broadened the range of validity of his theory. Men’s desires were supposed to be directed towards

⁸ Raffaelli (1996, p. 92) has remarked that Marshall’s semantic change is noticeable in 1893, in his speech to the *British Economic Association*.

⁹ Marshall did not refer to Sidgwick, but rather to Green, presumably for two reasons. Quoting Sidgwick would not have entirely cleared up his ambiguous links with utilitarianism, since Sidgwick was well-known as a utilitarian—even though Sidgwick had rejected psychological hedonism. In addition, Marshall at that time had quarreled with Sidgwick. Therefore, in Marshall’s reference to Green, rather than to Sidgwick, could be interpreted as the remainder of a private quarrel with Sidgwick (see Edgeworth 1925, p. 74; Fry 1976, pp. 1–2).

¹⁰ Compare, for example, the first edition of the *Principles* (Marshall 1890, p. 155) and the fifth (Marshall 1907, p. 94).

¹¹ Compare, for example, the second edition of the *Principles* (Marshall 1891, p. 150) and the third (Marshall 1895, p. 169).

¹² Compare, for example, the second edition of the *Principles* (Marshall 1891, p. 151) and the third (Marshall 1895, p. 79).

¹³ Compare, for example, the second edition of the *Principles* (Marshall 1891, p. 150) and the third (Marshall 1895, pp. 168–69).

satisfaction—satisfaction being possibly painful, as the satisfaction of duty. Hence, Marshall could state “no new difficulty is introduced by the fact that some of the motives of which we have to take account belong to man’s higher nature, and others to his lower” (Marshall 1920, p. 13). Did Marshall write what he really thought, or did he instead try to convince himself and his readers with this sentence? The question may be asked because, further in the *Principles*, Marshall conceded that *there is actually a difficulty* and that his indirect measure of satisfaction had not yet achieved universality! Finally, broadening the motives of human action did not solve the problem pointed out previously. It just reproduced and confirmed it. Because after all, according to Marshall, if one could not justify any identity (or any universal proportionality) between desire and *pleasure*, one could no more do so for desire and *satisfaction*. Specifically, Marshall admitted that the assertion according to which human motives are “desires of satisfaction” entailed nothing of the universal. Indeed, in a letter addressed to Pigou in 1903, just after the publication of his article, “Some Remarks on Utility,” Marshall acknowledged that “some moving forces are not associated with great pleasure, possibly *not even with great satisfaction*” (Whitaker 1996, vol. 3, p. 7, emphasis added). In other words, if satisfaction is always a fulfillment of a desire, it does not imply that desire is *always* directed towards satisfaction. Therefore an amount of desire cannot be considered as equal to the amount of the following satisfaction.

The tone of acquiescence characterizing this correspondence between Marshall and Pigou suggests that Marshall came around to the idea Pigou defended in his paper, according to which men desire “numerous *other things* as well” (Pigou 1903, p. 67, emphasis added). This is quite puzzling and unfortunately, these “other things” were defined by neither scholar. Anyway, the important point is not to know if men actually desire “other things” than satisfaction: this would lead towards an external appraisal, which is not the purpose of this paper. The important point is to consider the consequence of Marshall’s opinion about human motives on the consistency of his theory rather than to discuss this opinion.

These considerations about the nature of human motives, made by Marshall around 1903, brought him to modify anew his statement in the fifth edition of the *Principles*, in 1907. In unambiguous terms, he indicated the errors resulting from his conception of human motives on his measurement of satisfaction by the intermediary of a measurement of desire. Nonetheless, he preserved this method of evaluation because no other solution was conceivable.

Let us suppose that mental states are directly measurable, as postulated Marshall in a note.¹⁴ We would then need to “have two accounts to make up, one of desires, and the other of realized satisfactions. *And the two might differ considerably*” (because desires are not solely desires for satisfaction). Yet, “as neither of them is possible, we fall back on the measurement which economics supplies, of the motive or moving force to action: and we make it serve, *with all its faults, both* for the desires which prompt activities and for the satisfactions that result from them” (Marshall 1907, pp. 92–93; 1920, p. 78; emphasis added).

¹⁴ Should it be repeated that this is a purely hypothetical: indeed measuring mental states is “impossible, if not inconceivable” (Marshall 1920, p. 78).

It should be underlined that the possible discrepancy between the intensity of a prior desire and the intensity of the satisfaction actually experienced afterwards does not relate to a problem of imperfect expectations. Of course, errors in forecasting may be added to this discrepancy. However, Marshall stated that even without this kind of error, intensity of desire and intensity of satisfaction might differ *because desire is not directed solely towards satisfaction*. Even if “the resulting satisfaction [of the desire] corresponds in general fairly well to that which was anticipated,” Marshall acknowledged that the intensity of a desire (eventually) could not be correlated to the anticipated (and experienced) satisfaction, because there are “*desires and aspirations which are not consciously set for any satisfaction*.” Nevertheless, Marshall took care to add, “for the present we are concerned chiefly with those which do so aim” (Marshall 1907, pp. 92–93; 1920, p. 78, emphasis added). But what, precisely, are “those which do so aim” and those which do not? This question will remain unanswered.

It is not easy to characterize Marshall’s method. Preoccupied by the denial of all links with the utilitarian doctrine and its psychological premises,¹⁵ Marshall threw out the baby (the doctrine of psychological hedonism) while keeping the bath water (the one-to-one mapping relation between mental states *ex-ante* and *ex-post*). Nevertheless, this relationship could not apply to all actions. In order to guard against potential attacks, Marshall limited explicitly but discreetly (in a footnote) the field of application of his theory: since his monetary measurement of satisfaction could only apply to actions governed by the desire for satisfaction, he pointed out that only this kind of action would be considered in his *Principles*. The stipulation was welcome, but the validity domain of his theory remained undefined: nowhere did Marshall draw up an exhaustive list of the actions governed by the desire for satisfaction. The limitation of the theory’s domain may have been an opportune loophole. Moreover, Marshall played a little bit with his readers, since he abstained from repeating this limiting clause. W. C. Mitchell was very critical on this point. According to him, some economists:

compromised by employing the hedonic calculus in developing their crucial theorems, at the same time preserving an air of reality by sagacious qualifications of the conclusions. Marshall represented this eclectic type of theory at its best . . . the fact remains that the ultimate terms in Marshall’s account of economic activity are pleasures and pains, or satisfactions and detriments, as he often calls them. And the skeleton of his theory is put together by treating pleasure and pain as if they were mechanical quantities . . . On the other hand, Marshall is seldom content with a mere mechanics of utility. The most characteristic passages in his book are those in which he points out the limitations of his own theorems, limitations which often find their source in traits of human nature not dreamed in the philosophy of Bentham” (Mitchell 1910, pp. 110–11).

Mitchell believed that Marshall permitted himself to recognize a proposition as being false from a psychological point of view, and yet to disregard this judgment from an economic point of view, lest his scientific project miscarry before it got

¹⁵ It does not seem that Marshall has been able to convince all his critics. (See, for example, Keynes 1924, p. 9; Edgeworth 1925, p. 71; Mitchell 1935, p. 66; Jensen 1990, pp. 23–24).

its legs beneath it.¹⁶ In a way, I could share Mitchell's opinion because it expressed what emerged from the *form* of Marshall's thought. However, I do not think that it was actually relevant to account for its *content*. Mitchell's criticisms were too deeply rooted in the hedonism debate. It is not certain that he had understood the meaning of the broadening of human desires (from desire for pleasure to desire for satisfaction), because he seemed to have considered pleasure and satisfaction as synonymous terms. Mitchell's criticisms might concern the first and second editions of Marshall's *Principles*, but are not relevant for the following editions. Indeed, Mitchell, writing in 1910, quoted exclusively the preface to the first edition.

It should be added that from a contemporaneous point of view, Marshall's problem (does a universal one-to-one mapping relation between mental states *ex-ante* and *ex-post* exist?) seems excessively easy to resolve. One just has to call for the concept of preference. If an individual always desires what he prefers, then the intensity of a prior desire will always reflect the intensity of the following satisfaction of this preference. Hence, under perfect expectations, there will be no quantitative discrepancy between *ex-ante* and *ex-post* mental states. Marshall's economics has made its way towards the concept of preference. However, it never reached it.

III. THE SIGNIFICANCE OF THE AMBIGUITY OF MARSHALLIAN UTILITY

The preceding analysis of the measurement of mental states shows the framework of Marshall's theory of utility. In a certain way, the problem previously raised may clarify his general theory of welfare. Confronted with the uniqueness of the measurement tool of two different mental states (desire and pleasure or desire and satisfaction), Marshall integrated these two into a single concept: utility. Nevertheless, Marshall was rigorous in his use of the term utility. The implicit reference, sometimes to an *ex-ante* utility, sometimes to an *ex-post* utility, always occurred within a well-defined theoretical context. At the same time, the duality of utility echoed the theoretical difficulties of measuring mental states and reflected their (questionable) economic solution.

Marshallian Utility: A Dual but Not Ambiguous Concept

In the first edition of the *Principles*, Marshall defined the utility of a good as its desirability: the "desirability or utility of a thing to a person is commonly measured by the money price that he will pay for it" (Marshall 1890, p. 151). Demand price was the standard for the measurement of desire. In 1920, in the last edition of the *Principles*, Marshall's statement, although it underwent several

¹⁶ Marshall opposed the psychological perspective on the one hand—which became, in the fifth edition, the "philosopher's" one—from that of "the economist" on the other hand. The difference being that the economist "studies mental states rather through their manifestations than in themselves; and if he finds they afford evenly balanced incentives to actions, he treats them *prima facie* as for his purpose equal" (Marshall 1895, p. 77; 1920, p. 14).

modifications in form, remained basically the same. Utility, he repeated, “is taken to be correlative to Desire or Want. It has been already argued that desires cannot be measured directly, but only indirectly by the outward phenomena to which they give rise: and that in those cases with which economics is chiefly concerned the measure is found in the price which a person is willing to pay for the fulfillment . . . of his desire” (Marshall 1920, p. 78). Utility thus appeared as an *ex-ante* mental state, preceding the market transaction, objectified and measured by the monetary gauge. However, several pages after having correlated utility and desire, Marshall made a connection between utility and “happiness” or “pleasure” (in the first editions of the *Principles*¹⁷) or with “benefice” or “satisfaction” (in the last edition).¹⁸ Happiness, pleasure, profit, or satisfaction—whatever it may have been called—the fact remains that this notion of utility represents an *ex-post* mental state, that is, resulting from the market transaction. Yet, this has no manifestation in the economic field. Marshall was, from then on, obliged to use the demand price “with all its faults” to quantify “both . . . the desires which prompt activities and . . . the [mental states] that result from them” (Marshall 1920, p. 78). Marshallian utility thus brought together two perspectives, the one *ex-ante* and the other *ex-post*. In addition, the concomitant use of those two meanings of the word utility escaped alteration in every revision of the *Principles of Economics*. However, in no case was the double meaning of the notion of utility synonymous with confusion. There are very few cases in which the reader of the *Principles* cannot distinguish, explicitly or implicitly, the meaning attributed by Marshall to the word “utility.”¹⁹

Desire-Utility and Satisfaction-Utility: the Framework of Marshall's Welfare Economics

In other respects, it will be noticed that the duality of Marshallian utility does not mean an equal treatment of its two meanings. On the contrary, a preponderance of one facet over the other can be seen. In fact, although utility was defined, strictly speaking, as desirability, a lexicographic study of the various editions of the *Principles* shows that the *ex-post* conceptions of utility (occurrences of the words pleasure, happiness, or satisfaction) were more frequent. This is hardly

¹⁷ “the difference between *happiness* which he gets from buying 9 lbs. and 10 lbs. is just enough for him to be willing to pay 2s. for it . . . That is, 2s. a pound measures the . . . marginal *utility* to him” (Marshall 1890, p. 154, emphasis added); “the pleasure giving power or *utility*” (Marshall 1891, p. 150, emphasis added).

¹⁸ “the total *utility* of a thing to anyone (that is, the total *pleasure* or other *benefice* it yields him)” (Marshall 1920, p. 79, emphasis added); “the difference between the *satisfaction* which he gets from buying 9 lbs. and 10 lbs. is enough for him to accept to pay 2 s. for it [. . .] That is, 2 s. a pound measures the *utility* to him of tea” (Marshall 1920, p. 80, emphasis added).

¹⁹ The only possible ambiguity concerned the concept of marginal *utility* of money. In the neoclassical tradition, money being not desired for itself, it doesn't seem adequate to assimilate the marginal utility of money for an individual to the degree of his desire to have more of it. Yet, the *Principles* contain the strange mention—of which we will not, however, examine further: “[w]hen a workman is in fear of hunger, his *need* of money (its marginal *utility* to him) is very great” (Marshall 1890, pp. 393–94; 1920, p. 279; emphasis added).

Table 1. PLEASE ADD CAPTION

Meaning of the term “utility”	Desire	Satisfaction
Temporal situation	<i>Ex-ante</i>	<i>Ex-post</i>
Outward (economic) manifestation	Individual demand price	None
Theoretical status	Tool of measure Foundation of individual demand curves. Theoretical explanation of the link between utility and price.	Aim of measure Measured (from a socially significant point of view) by the consumers surplus, on the basis of the market price curve.

anecdotal, but rather demonstrates the relative importance of the concepts in Marshall’s theoretical project. If desire was “the starting-point” (Marshall 1920, p. 14) of the investigation, the quantification of the mental states resulting from market actions (that is, the quantification of *ex-post* utility) was incontestably the ultimate goal of the third book of the *Principles*. Presented as “a study of wants and their satisfaction,” this book began with desires and aspired to examine in the end, “how far the exchange value of any element of wealth, whether in collective or individual use, represents accurately the addition which it makes to happiness and wellbeing” (Marshall 1920, p. 71)—well-being being a flow of satisfactions.

This analytical perspective converges to highlight the role played by utility theory in Marshall’s welfare economics. Understood as desire, utility was used to explain the psychological process by which everyone can connect, by introspection, the intensity of desires to monetary prices. Desire-utility thus constituted the foundation of individual demand curves. On the other hand, understood as satisfaction, utility constituted the purpose of Marshall’s analysis: the rent or surplus, that is, the “economic measure” of a “surplus satisfaction” (Marshall 1920, p. 103) obtained by a socially representative individual, or an industrial group, in the purchase of a commodity. However, unlike desire, satisfaction has no counterpart in the economic field. Also, once Marshall had established the link between utility and price (the theory of the translation of the *ex-ante* and introspective desire-utility to an individual demand curve), he reversed it in order to translate the market price in terms of a socially significant satisfaction-utility.²⁰ Marshall assigned to market price and satisfaction a relationship that existed only between demand price and desire. With such a strong assumption, Marshall gave himself the means to ascribe a psychological significance to monetary surplus. This process was not without analytical difficulties. For our more limited purpose, we shall focus on the structure of Marshall’s utility theory: desire-utility was the framework of individual demand, while satisfaction-utility framed Marshall’s project in welfare economics.

²⁰ By assuming the existence of a definite relationship between desire and satisfaction, as well as assumptions relative to the distribution of tastes and individual wealth.

Thus, in spite of the theoretical difficulties underlying its measurement, Marshallian utility, from a purely semantic point of view, was a concept rigorously defined and used by Marshall, even if it had a double meaning. The reference to desire-utility or to satisfaction-utility was never arbitrary. It actually established the analytical system that it appeared to follow, the ultimate goal of this system being to achieve a socially significant measurement of welfare. In Marshall's *Principles of Economics*, the individual demand curve implied desire-utility, while the market demand curve and consumers' surplus implied satisfaction-utility.²¹

IV. CONCLUSION

The double meaning of Marshallian utility was not a semantic awkwardness. It should be understood rather, both as a theoretical problem and as its solution. Unquestionably, the duality of utility illustrated a problem in measuring mental states—that is, a difficulty encountered by Marshall's welfare economics. It summed up the existing gap between the tool or the standard of measurement theoretically available to the economist²²—the demand price expressing the intensity of an *ex-ante* desire—and the *object* of the measurement: the satisfaction experienced *ex-post*. Consequently, the duality of Marshallian utility appeared to be a solution to the problem. Whether it be desire or satisfaction, utility was measured indirectly through the demand price. However, this operation was conditional on the existence of a one-to-one mapping relationship between the intensity of a desire and the intensity of the satisfaction resulting from the realization of this desire. In other words, it necessarily required satisfaction to be the *sole* object of desire. Pigou, undoubtedly the only economist to have assessed the underlying problem of Marshallian utility theory, summarized it in an eloquent manner in *The Economics of Welfare* (without, however, explicitly naming his mentor):

[the] money which a person is prepared to offer for a thing measures directly, not the satisfaction he will get from the thing, but the intensity of his desire for it ... The substantial point is that we are entitled to use the comparative amounts of money which a person is prepared to offer for two different things as a test of the comparative satisfactions which these things will yield to him, only on condition that the ratio between the intensities of desire that he feels for the two is equal to the ratio between the amounts of satisfaction which their possession will yield to him (Pigou 1920, p. 23).

Yet, he hastens to add that this “condition, however, is not always fulfilled” (Pigou 1920, p. 23). It should be emphasized that this has to do with a problem

²¹ See Martinoia (1999).

²² In practice, the economist cannot survey individual facts. The only price of which he has knowledge is the market price, which is given to everyone, not the individual demand price. This difference is at the origin of two demand curves in the *Principles of Economics*, the individual curve that translates the intensity of desires—in other words, which translates the utility of each unit of good into demand price—and the demand curve of the market which, in reality, is just the retrospective fact of the number of acquired units at various given prices.

that is first of all related to the motives of human action and not to the degree of perfection of expectations (although this could be considered secondarily). Even under the condition of perfect expectations, desire, quantified indirectly by the gauge of money, does not reflect satisfaction when the pre-existing desire is not a desire for satisfaction. Moreover, as Marshall affirmed, such situations exist. This is the reason why only actions governed by the desire for satisfaction can fall into the field of measurement that he proposed. Thus, by self-imposing the limits of validity for his theory, Marshall avoided endangering the logical coherence of his measurement of satisfaction-utility derived from the monetary measurement of desire-utility. It remains that for the one who is not convinced by Marshall's method, the intersection of desire and satisfaction in the notion of utility appears to be precarious. As utility theory constituted the armature of the surplus theory, all the difficulties indicated in the core of the former would also put the latter—that is to say, a significant part of Marshall's welfare economics—in danger.

REFERENCES

- Aldrich, J. 1996. "The Course of Marshall's Theorizing about Demand." *History of Political Economy* 28 (2): 171–217.
- Backhouse, R. 1985. *History of Modern Economic Analysis*. Oxford: Basil Blackwell.
- Bentham, J. 1789. *An Introduction to the Principles of Morals and Legislation*. London: The Athlone Press, 1970.
- . 1834. *Deontology*. Oxford: The Clarendon Press, 1992.
- Black, R. D. C. 1990. "Jevons, Marshall and the Utilitarian Tradition." *Scottish Journal of Political Economy* 37 (1): 5–7. In J. C. Wood, ed., *Alfred Marshall Critical Assessments*, vol. VII. London: Croom Helm, 1996, pp. 302–15.
- Edgeworth, F. Y. 1925. "Reminiscences." In A. C. Pigou, ed., *Memorials of Alfred Marshall*. London: Macmillan, 1925, pp. 66–73.
- Fry, G. K. 1976. "The Marshallian School and the Role of the State." *The Bulletin of Economic Research*. In J. C. Wood, ed., *Alfred Marshall Critical Assessments*, Vol. IV. London: Croom Helm, 1982, pp. 287–301.
- Groenewegen, P. 1995. *A Soaring Eagle: Alfred Marshall 1842–1924*. Cheltenham: Edward Elgar.
- Guillebaud, C. V. 1942. "The Evolution of Marshall's 'Principles of Economics'." *Economic Journal* 52 (December): 330–49.
- . 1961. *Alfred Marshall Principles of Economics, Variorum edition, Vol. II*. London: Macmillan for the Royal Economical Society.
- Homan, P. T. 1933. *Essai sur la pensée économique contemporaine des anglo-américains*. Paris: Sirey.
- Jensen, H. E. 1990. "Value Premises in the Economic Thought of Alfred Marshall." *Economie Appliquée* 43 (1): 19–35.
- Jevons, W. S. 1871. *The Theory of Political Economy*. London: Macmillan.
- Kahneman, D., P. Wakker, and R. Sarin. 1997. "Back to Bentham? Explorations of Experienced Utility." *Quarterly Journal of Economics* 112 (2): 375–405.
- Keynes, J. M. 1924. "Alfred Marshall 1842–1824." *Economic Journal* 34 (September): 311–72. In A. C. Pigou, ed., *Memorials of Alfred Marshall*. London: Macmillan, 1925, pp. 1–65.
- Marshall, A. 1874. "The Laws of Political Economy: What they Can Teach and What they Cannot Teach." *Beehive*. April 18. Reprinted in *Economic Journal* 73 (September 1963): 423–26.
- . 1876. "Mr. Mill's Theory of Value." *Fortnightly Review* (April). In A. C. Pigou, ed., *Memorials of Alfred Marshall*. London: Macmillan, 1925, pp. 119–33.
- . 1885. "The Present Position of Economics." In A. C. Pigou, ed., *Memorials of Alfred Marshall*. London: Macmillan, 1925, pp. 152–74.

- . 1890. *Principles of Economics*. Second edition 1891; third edition 1895; fifth edition 1907; eighth edition 1920; re-edited in 1994. London: Macmillan.
- . 1893. "Speech to the Meeting of the British Economic Association." *Economic Journal* 3 (September): 387–90.
- . 1919. *Industry and Trade*, 4th edition. London: Macmillan, 1923.
- Martinoia, R. 1999. *La Théorie de l'utilité d'Alfred Marshall, au risque du plus grand bien-être du plus grand nombre*. Thèse de doctorat, Université Paris 1 Panthéon-Sorbonne.
- Mitchell, W. C. 1910. "The Rationality of Economic Activities." *Journal of Political Economy* 18 (2): 97–113.
- . 1935. *Lectures Notes on Types of Economic Theory*. New York: August M. Kelley, 1949.
- Ormazabal, K. M. 1995. "The Law of Diminishing Marginal Utility in Alfred Marshall's *Principles of Economics*." *European Journal of the History of Economic Thought* 2 (1): 91–126.
- Pigou, A. C. 1903. "Some Remarks on Utility." *Economic Journal* 13 (March): 58–68.
- . 1920. *The Economics of Welfare*. London: Macmillan, 1952.
- , ed. 1925. *Memorials of Alfred Marshall*. London: Macmillan.
- . 1953. *Alfred Marshall and Current Thought*. London: Macmillan.
- Raffaelli, T. 1996. "Utilitarian Premises and the Evolutionary Framework of Marshall's Economics." *Utilitas* 8 (1): 89–108.
- Sidgwick, H. 1872. "Pleasure and Desire." *Contemporary Review* 19 (April): 662–72.
- . 1874. *The Methods of Ethics*. London: Macmillan, 1901.
- . 1883. *The Principles of Political Economy*. London: Macmillan, 1901.
- Skidelsky, R. 1983. *John Maynard Keynes, Vol. 1*. London: Macmillan.
- Stigler, J. 1950. "The Development of Utility Theory." *Journal of Political Economy* 58 (August, October): 307–27, 373–96.
- Viner, J. 1925. "The Utility Concept in Value Theory and its Critics." *Journal of Political Economy* 33 (August, December): 369–87, 638–59.
- Whitaker, J. K. 1996. *The Correspondence of Alfred Marshall: Economist*, 3 vols. Cambridge: Cambridge University Press.