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# Canning's legacy

John B. Ryan

*University of Wollongong*, [jryan@uow.edu.au](mailto:jryan@uow.edu.au)

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## Abstract

The motivation for this paper is to evaluate the legacy of John B. Canning to financial accounting, particularly regarding his attempt to identify the qualitative, empirical property underlying the accounting elements for measurement of periodic profit. Canning's adaptation of Fisher's (1906) concept of individual real income to deduce enterprise earnings together with the underlying concept of services is explored for its impact on profit measurement. Fisher (1930b), in his review of Canning's book, provides a clear description of profit as an 'adjusted cash flow'. In endorsing this approach Canning (1933) also, in effect, endorses much to be found in conventional accounts. Canning's (1929a) break with economic value was announced in a paper which appeared before publication of his book, but which was written after the book was completed. Canning's experience casts light on the current debate on the conceptual framework definitions, and measurement in financial reporting. The interest and excitement his work continues to generate is an enduring contribution to accounting.

## Keywords

legacy, canning

## Disciplines

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# Canning's Legacy

## Abstract

John B Canning is something of an enigma, advocating through his major work, *The Economics of Accountancy*, economic value as the ideal basis for measurement in the balance sheet, but then criticising that basis for being impractical and recommending alternatives. The motivation for this paper is to evaluate his legacy to financial accounting, particularly regarding his attempt to identify the qualitative, empirical property underlying the accounting elements for measurement of periodic profit. A paper on his academic career by Zeff (2000) provides relevant background information, and a broad context for the evaluation.

Canning's adaptation of Fisher's (1906) concept of individual real income to deduce enterprise earnings together with the underlying concept of services is explored for its impact on profit measurement. Fisher (1930b), in his review of Canning's book, provides a clear description of profit as an "adjusted cash flow". In endorsing this approach Canning (1933) also, in effect, endorses much to be found in conventional accounts. Canning's (1929a) break with economic value was announced in a paper which appeared before publication of his book, but which was written after the book was completed.

Canning's experience casts light on the current debate on the conceptual framework definitions, and measurement in financial reporting. The interest and excitement his work continues to generate is an enduring contribution to accounting.

### *Key words:*

Services, qualitative empirical property, profit measurement, opportunity difference, money

## Introduction

The motivation for this paper is to assess the legacy of John B Canning from a financial accounting theory perspective, particularly in relation to a unique issue on which he initiated discussion; namely, identification of the property underlying the accounting elements for measurement of profit for a past period. This issue remains unresolved today. As one of the earliest writers on accounting theory, Canning has attracted much attention. Yet in spite of several reviews of his major work, he remains something of an enigma. Hence part of the motivation is to show how his initial contradictions gave way to an interpretation of accounting practice, based on the concept of services, that he believed could be integrated within a consistent framework. He acknowledged that not only had his views on the relationship of accounting to neoclassical economics changed, but also that his theory of financial accounting was incomplete. Classifying such an innovative but incomplete work also presents challenges<sup>1</sup>. His use of terms like highly probable, predicting value, opportunity difference, special purpose accounts, and most notably future services, predates their general adoption and mark him out as an original thinker.

Mainly due to the apparent contradictions, reading his book can be a frustrating exercise. For example, while he initially appears to support a balance sheet based wholly on economic values, later he explains and supports the use of the cost allocations used in conventional accounting. On the one hand, he claims that “accountants can properly be said to adhere to one highly unified and intricately articulated theory” (Canning, 1929b: 143), while on the other hand, accountants as a group are criticised for having “no complete philosophical system of thought about income; nor is there any evidence that they have felt the need for one” (Canning, 1929b: 160). Switching his perspective between that of accountants and economists can be confusing. For example, Chambers (1979) and Gibson (1993) quote his description of the valuations appearing in the balance sheet as being of “mongrel origin” but without qualifying it, as he did, as being “from the economist’s point of view”. Similarly the

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<sup>1</sup> The authors of the AAA Committee Report SATTA (1977) classified Canning (1929b) in Exhibit 1 as a deductive theorist, whereas Whittington (1980) characterized his method as inductive, due to his reliance on actual accounts. It seems he used both methods. Ball and Brown (1968) included Canning (1929b) with authors claiming that income numbers lack meaning. That was not his position, but he can be quoted attributing that view to economists.

conclusion to the same paragraph “that these diverse valuations of diverse things are added to find an asset total, that dollar for dollar, cannot possibly have a common significance” (Canning, 1929b: 319) is a conclusion attributed to economists - and one, evidently, he did not share.

Proponents of different measurement systems are able to quote Canning in apparent support. This is particularly so in relation to inventories, where, for example, he proposes a scheme for disclosing “cost, market and net selling value to yield some named rate upon the investment”, claiming that “[e]ach of these figures has a special significance” (Canning, 1929b: 221), but without specifically stating “the special significance” or purpose of each measurement base. Thus, different interpretations of Canning’s work are possible, especially on valuation of assets. For example, it appears that he intended “opportunity difference” to be used only when cost exceeded it, thereby limiting the amount of cost being carried forward. However, Whittington (1980: 238) followed by Zeff (2000: 7) write as if Canning intended this concept to have a general application. Edwards (1989: 251) believes that Canning intended opportunity difference, along with net realisable value, as a surrogate for present value.

Three reviews of his book shortly after it appeared (Beatty, 1930; Fisher, 1930b and Meriam, 1931) and several reviews on important anniversaries inform the analysis. Smith (1974) presented a profile of Canning; Chambers (1979) a fifty year review; Whittington (1980) included Canning (1929) in a review article of *Pioneers of Income Measurement and Price-Level Accounting* on which topic Canning’s comparative silence was contrasted with the contribution of Sweeney (1936); and Gibson (1993) in a Jubilee review provided a 60 year perspective. Then Zeff (2000), in a paper dedicated to the memory of Ray Chambers, contributed *A View of His Academic Career*. This latter paper provides an invaluable, broader perspective facilitating an understanding of Canning the man. It is drawn on extensively for the first part on Canning’s career and life.

The remainder of the paper is organised as follows. An overview of his life and career is presented, and then the circumstances surrounding his PhD and article, both published in 1929, are elaborated. The mutual support, and high regard for each other, of Fisher, the mentor, and Canning, the student, provide relevant background information. Then the

reviews mentioned above, apart from that of Fisher (1930b) left for later analysis, are summarised. His definitions of the accounting elements are so unique as to warrant special mention, particularly as they provide a springboard for the main part in which he develops the concept of earnings of the firm from Fisher's concept of realised income based on services. Following a discussion of direct and indirect asset valuation, his difficulty with owners' equity, including gross income or revenue are reviewed. The strong stance against the relevance of "economic value" to accounting in Canning's paper read to the 1928 conference of the American Association of University Instructors of Accounting (AAUIA) is contrasted with the initial approach in his book. Fisher's review is remarkable for its perception of accounting measurement. Although he contributed little on accounting theory following publication of his book, several articles early in the 1930s, and two articles by Nelson, a disciple, help to elucidate his ideas. Concluding comments bring together the strands of the discussion and attempt an overall evaluation of his theory and contribution.

### **An overview of Canning's career and life**

John Bennet Canning was born on 25 November 1884 in Michigan. His father, a Canadian farmer, came to the US in 1881, and the family moved to Oklahoma in 1901. As the eldest of six children, he was required to help on the farm – work he apparently hated. However, at 18 he took charge of the farm, and later claimed that in six years of management he had increased the farm value threefold. It was not until he was 21 that he enrolled in the Oklahoma City High School; in his senior year he was the editor-in-chief of *The Student*, a monthly, played on the School's football team, and graduated in 1909, aged 24.

With the support from scholarships he then enrolled at the University of Chicago, graduating in 1913 with a Bachelor of Philosophy in Arts and Literature, and honours in political economy. He played on the varsity football team in 1911 and 1912; studied a course in accounting with the instructor Plimpton securing him a position helping to settle a large estate. Awarded scholarships for graduate study, he completed most of the coursework for his PhD over 1913 to 1917, during which time he was an assistant in the department, and later an instructor in the College of Commerce and Administration. Staff in the department with whom he became acquainted included J.M. Clark, J. Viner and F.H. Knight. As assistant football coach, he maintained his sporting interest. On 23 December 1915 he

married Dorothy Helen Plumb, a classmate, and they had three sons. In 1917 he accepted Stanford's offer of an assistant professorship in economics, but intervention of war meant that he delayed taking up the offer until he was discharged in 1919 with the rank of major.

Canning's initial concern at the Stanford Economics Department was to establish a full range of undergraduate accounting courses. Promoted to Associate Professor in 1925, he established a Division of Accounting in 1926 with a four year degree, a fifth year leading to an MA in Economics and Accountancy aimed at aspiring public accountants. Mathematics, law and economics provided the three pillars for the degree. Colleagues admired his intellect and integrity, but not his expansion of the accounting courses. However, as the Division attracted some of the best students, it was accepted. Following the award of his PhD he was promoted to full professor in 1930.

In the 1930s he became preoccupied with the problems of the depression, and was an ardent supporter of the new deal, particularly unemployment insurance. Regarded by some as a radical, he played a full role in his profession, being editor of the Proceedings of the Pacific Coast Economic Association, 1932-35, and President in 1937; President 1936-37 of the Social Science Research Conference of the Pacific Coast; member and chair of Commonwealth Club of California and the Western Farm Economic Association. Late in the 1930s he became engrossed in agricultural policy, obtaining leave from Stanford in 1941 to be an economic adviser to the Secretary for Agriculture. In 1945 he moved to Berlin as Deputy Chief of the food and agricultural branch of the economic division of the US Office of Military Government, continuing in this position until 1948. In June 1946 he had retired to emeritus status at Stanford. Following his retirement, the economics department cut back the accounting courses and the Division of Accountancy ceased. In retirement, he was advised due to a heart condition to take things easy. He enjoyed gardening and fishing. He died after a long illness in 1962.

### **The circumstances surrounding submission of his PhD, article and book**

Zeff (2000) relates that his progress on his PhD was steady but slow, due no doubt to his commitment to introduce a full range of the accounting courses at Stanford. During 1920-22

he studied nine graduate courses, several of which applied to his PhD, and two of which were with J.M. Clark who was visiting Stanford on leave from the Chicago economics faculty. Canning discussed plans for his PhD with Clark, and then in the summer of 1924 when Canning was visiting Chicago, Clark read and gave general approval to “some 300 pages of a rough draft manuscript” (letter to Jacob Viner, Chicago, of 20 October 1928 quoted by Zeff (2000: 25)). Surprisingly, Canning then scrapped this work as he could not “give it his own approval”, apparently making a new start. The topic for his thesis was “a critical analysis of accounting practice and the development of a model to base accountants’ measurements on sound economic reasoning” (Zeff, 2000: 24).

Four years later by the letter of 20 October 1928 Canning submitted the book as his thesis, and asked for the oral to be held over the Christmas break as the book had already been accepted for publication by The Ronald Press Company. In addition, approval had been given to Professor Fisher to quote a substantial section from Chapter VII, suggesting that this chapter could not be amended. Further motivation for the oral to be held in December was no doubt provided by the fact he was travelling east to read a paper at the annual meeting of the AAUIA on 27-8 December 1928 in Chicago.

Quoting Zeff (2000:26): “To be sure, Canning was already an associate professor at Stanford. But how much more self-confidence, indeed hubris, can a doctoral candidate exhibit? He presented the University of Chicago’s economics department with a finished book: without a supervisor, without previous notice of its contents (other than to Clark, who had left), and with a deadline some two months hence for delivery of the book to the publisher. Nonetheless, impressed with the work, the department accepted Canning’s book as his doctoral dissertation.” The oral examination was held on 15 December, and the degree conferred on 11 June 1929. *The Economics of Accountancy* earned Canning the Beta Alpha Psi Book Award for the most notable contribution to the accounting literature for the year ending 1 May 1930 (Zeff, 2000: 27). The Preface is dated 10 September 1929.

Zeff (2000: 26) confirms that it was part of the rules for doctoral dissertations at Chicago that



they be published, attributing publication to the influence of W A Paton<sup>2</sup>. Just how much, if any, significance would have been attached by the examining committee to acceptance for publication, and that on the strong recommendation of a top accountant, can only be guessed at. Apparently Canning's and Paton's paths had crossed when they were both on leave at Chicago in the summer of 1924. In 1926, as editor of the *Accounting Review*, Paton asked Canning to review a book, the review being published in December 1926. Thus, they at least knew each other. Canning's greatest debt in writing the book, and one that he acknowledged, was undoubtedly due to Fisher, who in his review of it, returned the compliment by acknowledging Canning's influence on his own work. Fisher's review is considered after Canning's two main publications.

By a happy coincidence, the AAUIA, which Canning had joined in 1926, was holding its conference in Chicago on 28-29 December 1928 (Zeff, 2000: 24). This appeared as too good an opportunity to miss, particularly as Canning had a strong message to deliver regarding the position he had now reached regarding the relationship between accounting and economics. The paper he read at the conference was published in the March 1929 issue of *The Accounting Review* under the title "Some divergences of accounting theory from economic theory" and thus appeared before his book was published. It is important to keep in mind that the book, although published after the conference paper, was completed before it.

## **Fisher's early influence**

Irving Fisher was an acknowledged mentor to Canning, and influenced his views on both accounting and economics greatly. However, there is no doubt that they supported each other. Canning (1929b) stated very publicly in his book that Fisher should reverse the order of his treatment of capital and income to reflect their relative importance. Fisher (1930a and 1930b) responded immediately in apparent good humour by applying the advice in the first chapter titled "Income and Capital" in *The Theory of Interest* (1930a), and a repetition of the

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<sup>2</sup> Paton, as an early advocate of current costs, is likely to have been impressed with his concept of "opportunity difference" in respect of depreciable assets. In a major theoretical piece "Economic Theory in relation to Accounting Valuation" in 1931 Paton wrote: "In his book, *The Economics of Accountancy*, Professor Canning has ably discussed the various methods of apportioning depreciation in the light of economic theory. The writer [Paton] will make no effort to offer anything on the subject here" (Taggart, 1964: 242).

advice in his review (1930b) of Canning (1929b). Due to the significance of Fisher's (1930b) review to the understanding of Canning's ideas, it follows the evaluation of his book.

The following extracts from Fisher (1906) outline his philosophy<sup>3</sup>, and demonstrate the source of some of Canning's (1929b) ideas. Fisher (1906) explained his purpose, and philosophy, in writing *The Nature of Capital and Income* in these terms:

This book is an attempt to put on a rational foundation the concepts and fundamental theorems of capital and income. It therefore forms a sort of philosophy of economic accounting, and, it is hoped, may supply a link long missing between the ideas and usages underlying practical business transactions and the theories of abstract economics (vii).

From the foregoing accounts it is clear that the theory of capital and income which has been explained applies practically to the accounting ordinarily employed in business. Such accounting is, in fact, nothing but a method of recording the items of income and their capitalization at different points of time. A merchant's balance sheet is a statement of the prospects of the business. Each item in it represents the discounted value of the items which he may expect later to enter into his income account. ...

There are, of course, numerous practical modifications of this general statement to be made when accounts are treated. ... (Fisher, 1906: 264).

In the above quote, Fisher (1906) appears to have anticipated the purpose and title of Canning's 1929 book. Furthermore, his definitions of wealth and property, in addition to services, contributed significantly to the economic context and were specifically discussed by Canning (1929b: 146). Wealth was used "to signify *material objects owned by human beings*" (Fisher, 1906: 3). Hence wealth must be material (economic) and it must be owned. By ownership, Fisher meant the right to use it, which he called a *property right* (Fisher, 1906:

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<sup>3</sup> Mouck (1995: 43) attributes to Fisher's (1906) influence a "paradigmatic linkage between the Newtonian world view of science, neoclassical economics and mainstream academic thought". Further, this linkage is claimed to have facilitated the virtual "colonization" of accounting by neoclassical economics. The Newtonian mechanistic view of neoclassical economics is evident in the simple quantitative expression relating income and capital in the present value calculation. But Fisher (1930: 4) goes further by his reference to the "human machine". However, Mouck (1995: 46), noting Veblen's institutionalist economic theory based on the philosophy of pragmatism and the contribution of Scott (1931), states that "[i]nstitutional accounting can, in an important sense, be seen as the path not taken." Hence, an interesting question is whether the Fisher/Canning view of accounting may have been able to contribute to this path. Canning (1929b) does not indicate awareness of the broad social perspective Scott (1925) had outlined on accounts.

18). His complete definition reads: “A *property right is the right to the chance of obtaining some or all of the future services of one or more articles of wealth*” (Fisher, 1906: 22). In further elaboration, he continued: “Wealth and property, then, are correlative terms. Wealth is the concrete thing owned; property is the abstract right of ownership. The two concepts mutually imply each other” (Fisher, 1906: 22). Moreover, “it is impossible to have a right to any future wealth which is not also a right to some present wealth as a means of securing that future wealth” (Fisher, 1906: 33)<sup>4</sup>.

Fisher’s (1906) explanation of property rights is convincing, and, without becoming dominant, their significance has been recognised by accounting theorists. For example, Sprague (1907: 45-47) emphasised rights arising from contracts, and those “over things”. Littleton (1933: 13) included them first in “The Antecedents of Bookkeeping” in these terms: “a. Private property (power to change ownership)”. Samuelson (1996) builds a strong case for defining assets in terms of property rights. Vangermeersch (1999: 172), in reviewing Previts and Merino (1998), states that this “second edition has an overriding theme of the importance of property rights and its corollary in accounting, the proprietary theory”.

## **Two early reviews, Beatty and Meriam**

Beatty (1930) drew attention to his definition of assets, and that valuation depended on Fisher’s theory of income based on services. In addition, units of services underpinned depreciation policy for fixed assets. As goodwill has no separate existence, Canning (1929b) described it as a master valuation account. He concluded that the “analysis is not exhaustive nor its conclusions definitive, nor, indeed are these to be expected in a pioneer study” (Beatty, 1930: 112).

The review by Meriam (1931), which appeared in *The Accounting Review*, also emphasised the centrality of Fishers’ income concept to Canning’s accounting theory, noted that his definition of assets was underpinned by “future services”, and that depreciation of fixed

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<sup>4</sup> This fundamental truth of Fisher highlights the significance of present wealth, and use of “chance” in his definition of assets draws attention to the problematic nature of future wealth, suggesting that future wealth is not an empirical concept.

assets should be based on units of service. Meriam (1931: 242) observed that “Professor Fisher has written a highly eulogistic account of the book ...” and that theories other than Professor Fisher’s are “dismissed with disdain or relegated to the ‘scrap heap’”. Regarding goodwill, Meriam asserted that no one has been able to suggest a better method for measuring it other than “capitalization of excess earnings” (Meriam, 1931: 243). But he warned that Canning’s definitions of assets and income come close to being circular<sup>5</sup>. After noting that the valuation of capital assets is highly complex, this reviewer remarked that “the most stimulating suggestion for the accountant is to look to the future income as much as possible” and then concluded that “[t]he appreciation of a pioneering work is always difficult and uncertain, and never unanimous. Professor Canning’s work is certainly provocative” (Meriam, 1931: 243).

## **A Profile and three later reviews**

In a *Profile* of Canning, Smith (1974) stated that the “book was destined to have a significant effect on the development of accounting theory”, that his influence has “grown with the passage of time”, the book becoming “required reading for generations of graduate students”. While his claim that “Canning was the first to synthesize the underlying concepts of accounting in terms of economic concepts of valuation and income” is a proposition to be evaluated, there can be no quarrel with his assertion that Canning’s work “was truly pioneering”, nor with his conclusion that his book had value then (and likewise today) “as a current guide providing a basis for solutions to a large number of today’s unresolved problems in accounting measurement and analysis. It is vital, alive and relevant to the 1970s”.

Chambers’ (1979: 765) 50 year review identified two disciplinary ideas deserving of “special notice”. These were, first, “the attempt to define rigorously the terms used in exposition and argument”, and second, “specification of the rules relating to the ‘merging by summation or otherwise’ of ‘individual measures’”. Regarding logical rigor, Chambers (1979: 773) noted

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<sup>5</sup> The warning could well be warranted if Canning’s initial ideal of measurement in current value terms (present value) was realised, with the measurements of both income and assets then being derived from expected future cash flows.

that although the definitions of asset, liability and net proprietorship are “relatable”, the “notion of income is not relatable to them” and “net income is not defined qualitatively”. Canning’s views on measurement are undoubtedly reflected in Chambers (1965), a major contribution to accounting measurement. Chambers (1979: 774) noted that Beatty (1930) and Miriam (1931) “did not find evaluation of it [Canning’s book] easy”. He did not mention the Fisher (1930b) review.

Chambers (1979: 774) was surprised that the significance of Canning’s “two disciplinary ideas” had not lead to greater improvements in practice and theory, and disappointed that 50 years later similar criticisms could still be made, claiming that the search has been “befogged by confusion of the different but complementary roles of past information, present facts, and future prospects in the decision making process”. Chambers (1979: 774) concluded that, had Canning first identified the functions of all three information sets, “there may have been, by now, a more disciplined attack on that part of accounting which concerns itself with statements of past results and present position from time to time”.

Canning’s book was one of three reviewed by Whittington (1980). He described the style as “rather florid”, and likened that of the early chapters to a “lengthy Victorian novel”. His claim that Canning emphasised an inductive approach due to his reliance on “actual specimens of accountants’ work” needs to be balanced with the central role accorded earnings, a concept derived from Fisher’s “realized income”. The contrast with the writing of Sweeney (1936) on price level accounting is stark, but Canning (1929b: 196) was not silent on the issue, dismissing price level adjustments because the accountant “cannot possibly obtain the data requisite for their consideration at the time he requires them”. The lack of examples, particularly the failure to specify his ideal income statement, including a concept of capital maintenance, is criticised. However, Whittington (1980) acclaimed Canning’s revolutionary approach to accounting theory, in which he reversed the traditional backward looking valuation to a forward looking economic one.

Regarding valuation of assets, Whittington’s interpretations of Canning are not easy to follow. First, he attributes to Canning “a central concern with the assessment of realisable values” (Whittington; 1980: 237) but then qualifies this remark for fixed assets which are to

be valued “indirectly”, using, particularly in the case of joint production, “opportunity differences”. Whittington (1980) then appears to take from this interpretation of Canning general support for the use of replacement costs. Whittington (1980: 238) notes that Canning’s “fundamental criterion of valuation is to establish the present value of the future cash flows ...and ‘opportunity value’ is a second best alternative when such values are unavailable”. Undoubtedly present values initially represented Canning’s “ideal valuation”; and initially, the capitalisations were of future expected (Fisher’s) “realized income”, later extended to include earnings of the firm. The use of realisable values, Canning’s direct valuation for accounts receivable and short-term loans, can be accommodated within this ideal. But it is restricted to those assets. Canning’s normal basis for valuation of fixed assets is at cost (including written down cost) and is referred to as indirect valuation. Opportunity difference is only to be used when the cost to be carried forward exceeds the opportunity cost of the relevant services.

Gibson (1993), the final review to be considered, provides a 60 year perspective. Canning’s rigorous definitions of the accounting elements are highlighted, and the central role of income is noted, concluding with Canning’s lament that there is “no ground for hope” for “precision and reliability” in income measurement, which in any event cannot be “precisely determined” (Canning, 1929b: 124) until the entity is wound up. However, Gibson (1993) acknowledges that his three rules for revenue recognition have become accepted. Regarding valuation, Gibson (1993) notes his preference for economic valuation (direct valuation) wherever future cash flows are available for discounting, and then writes “where there are no means of directly estimating cash flows, Canning recommended the use of indirect valuations such as replacement cost or realizable value” (Gibson, 1993: 43). This statement is modified after considering the views of Fisher (1930b) and Previts and Merino (1979) to allow historical cost as indirect valuation. Gibson (1993) notes that Canning should not be condemned for failure to solve the problems of valuation as 60 years after his publication the problems remain unresolved. In concluding, Gibson (1993) drew attention to Canning’s “decision-usefulness” approach, leading to his suggestion for “special purpose reports” with the purpose endorsed, so that those using them for other purposes, do so at their own risk.

The full review of his academic career by Zeff (2000) points the way to an improved

understanding of his views by providing a broad context for the analysis. The overview of Canning's life and career, and the part summarising the circumstances surrounding the submission of his PhD thesis, rely largely upon Zeff (2000). Although not wishing to cover theoretical issues addressed by other reviewers, notably Chambers (1979) and Whittington (1980), Zeff (2000: 5-12) nevertheless makes a significant contribution, particularly in providing an overview of Canning's impact. Here he traces the influence of the concept of future services on Paton and Littleton (1940), then Vatter (1947) and his disciples, Staubus, Sorter, Horngren and Green, noting that Sorter was a member of two influential committees. First, the 1966 AAA Committee that drafted *A Statement of Basic Accounting Theory*, and second, the 1973 AICPA Study Group that wrote *Objectives of Financial Statements* (the Trueblood Report) (Zeff, 2000: 5-11).

Two points to emerge from these reviews are that, first, several of the reviewers credited Canning (1929) as being the first writer to recommend that the balance sheet should be forward looking, and that assets and liabilities should be measured at the capitalised present value of their future cash flows, whereas credit for this idea belongs to Fisher (1906: 264). Second, Zeff (2000) excepted, none of them referred to Canning's (1929a) article. This article is significant to an overall understanding of his views as it demonstrates clearly his unequivocal break with classical and neoclassical economics, and explains why he believed economic value and accounting valuation could not be reconciled.

## **Canning's toolbox of ideas**

Canning brought to the task of analysing and explaining accounting a mind trained in economic and statistical analysis. Apart from a few select texts, he preferred to rely on what accountants actually did rather than their writings, to this end examining thousands of examples of their work, both public and private (Canning, 1929b: iv). His training in statistics lead him to enunciate what Chambers (1979: 766) called "the ordinary rules for aggregative measurement ... [which] were new to the accounting literature". The first of these rules emphasised that the things being measured should belong to a "common population ... sensibly alike with respect to the property (or set of properties) ... under

investigation” (Canning, 1929b: 199)<sup>6</sup>.

However, while Canning’s development did not extend to the measurement theory requirement for a “qualitative, empirical property”, he did emphasise that prior to quantitative analysis, the reasons for the “qualitative or attributive classification should be disclosed” (Canning, 1929b: 44). Identification or selection of this qualitative property is something with which he struggled throughout the book. Yet, similarly to the definitions drafted for the Conceptual Framework Joint Project of the IASB and FASB (2008) (hereinafter referred to as the CF Joint Project (2008)), a property that performs that function resides in the definitions he carefully crafted for the elements of the double entry equation. His definitions were:

An asset is any future service in money or any future service convertible into money (except those services arising from contracts the two sides of which are proportionately unperformed) the beneficial interest in which is legally or equitably secured to some person or set of persons. Such a service is an asset only to that person or set of persons to whom it runs (Canning, 1929b: 22).

A liability is a service, valuable in money, which a proprietor is under an existing legal (or equitable) duty to render to a second person (or set of persons) ...(Canning, 1929b: 55-56).

Proprietorship consists of the entire beneficial interest of a holder of a set of assets in those assets (Canning, 1929b: 55).

Putting aside the piece in brackets on executory contracts for later discussion, and the last sentence in effect identifying the accounting entity, his definition of assets highlights “future service in money or ... convertible into money” and a beneficial interest “legally or equitably secured to some person ...”. Equating his descriptions of *future service*<sup>7</sup> with “present economic resource” and of *beneficial interest* with “present right or other privileged access”, his definition of assets aligns remarkably well with the essence of the definition in the CF Joint Project (2008). Their “present economic resource” is a more direct term for a current existing resource that, due to relative scarcity, commands a money price. Similarly to Canning’s (1929b) definitions of assets and liabilities, the definitions of the CF Joint Project (2008) omit the expression “as a result of past transactions or events” appearing in both the current definitions of the IASB Framework and FASB SFAC No.6. The lack of express

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<sup>6</sup> These views are reflected in Chambers (1965) where he set out rules for measurement in accounting, selecting current cash equivalents (CCEs) as the property of relevance for measurement in financial statements.

<sup>7</sup> Canning (1929b: 42) himself used the term *economic* to describe this property.



recognition that the ownership right or obligation stems from a past transaction can be criticised, unless the transaction is implied, as the transaction provides the link to reality.

Canning's qualification of "beneficial interest" by "legally or equitably secured to some person ..." appears clearer than the CF Joint Project (2008) term "present right or other privileged access" for two reasons. First, the reference to "legally .. secured" is a clear reference to property rights as the means for securing ownership or control of the assets of a sole trader or of a partnership. Second, the reference to "equitably secured" covers the case where the assets are held in the name of a company, and the beneficial interest of shareholders is secured by their ownership of shares in that company, the terms of which are set out in their contract with the company. The CF Joint Project (2008) notes that while rights are "legally enforceable ..." other privileged access is not, but is "otherwise protected by secrecy or other barriers to access". This latter statement seems at best to sit awkwardly in a conceptual framework for which accountability is an important objective.

Several aspects of the definition of assets warrant further examination. The first is that of future services, a pivotal concept in Canning's theory. Sprague (1907) is another early accounting theorist to develop the concept of future services. Canning (1292b: 22) attributes the "nearest foreshadowing" of his definition to Sprague's (1907: 41) comment regarding assets that "they are a storage of service to be received". Williams (2003: 151), similarly to Zeff (2000), in identifying Fisher (1906) as their mutual source, traces the use of the concept to later writers such as Gilman (1939), Paton and Littleton (1940), Vatter (1947), Staubus (1961), Sprouse and Moonitz (1962) and others. Indeed, Paton and Littleton (1940: 12-13) rejected their own explanation of accounting measurement based on "price-aggregates resulting from exchanges" in favour of "service" as "the significant element behind the accounts, that is service potentialities". However, future services share with future economic benefits a fatal flaw exposed by Samuelson (1996) and Williams (2003) – and one already implied by Fisher (1906) by use of the word "chance" (of their attainment) in his definition of assets. That is, by being located in the future, future services are not an empirical concept open to testing.

The second aspect is that the future service is to be "in money or convertible into money",

and this aspect is used by Canning's (1929b: 43) to deny goodwill the status of an asset, describing it "when it appears in the balance sheet at all" as a "master valuation account". In support of this view, he writes that "accountants incline strongly to exclude items that do not describe separable sets of services still to be had ...". Separability, or exchangeability, is thus a significant aspect, but one which flows from a particular right of ownership, the right of sale. Samuelson (1996: 154) notes that while exchangeability is a *sufficient* condition for asset recognition, it is not a *necessary* condition as "some property rights cannot be sold" (for example, rent paid in advance and lease entitlements). For such assets, the right of use is paramount. For Canning, however, exchangeability, or conversion into money, was an essential aspect. Williams' (2003) explains how "exchangeability for cash" came to be replaced by future economic benefits in the definitions of assets of professional bodies. She concluded her review with a recommendation that a separate statement showing all exchangeable assets at the current market selling prices should be published.

A third aspect of assets worth emphasising due to its neglect is that the contract giving rise to them must have been executed; and that executory contracts (those unperformed by both parties) do not give rise to assets. Canning (1929b: 19) notes, however, that this may mean that a contract particularly advantageous to one party is not disclosed. As for contracts "unequally performed", or partially performed, like payment of services in advance, for example, he states that accountants would have no difficulty in raising an account for the prepayment. This is an example of another area of accounting where Canning was well ahead of his time. Indeed, today it is surprising how little discussion there is of accounting for unperformed contracts, or partially performed contracts, particularly in the relation to the surge in innovative derivatives.

### **Canning's derivation of enterprise earnings from Fisher's realized income**

This part commences with Canning's synopsis of Fisher's income theory, mainly to demonstrate the incomplete debate reflecting confusion over the relationship between revenue and assets (the fruit and the orchard). Fisher's three income concepts are next outlined and then Canning's reasons for adapting Fisher's concept of realized income are explained. While no concept of periodic accounting profit emerges, both Fisher and Canning

are clear about the nature and significance of lifetime income for a terminated enterprise, unwittingly providing a basis from which an equivalent periodic concept can be formulated.

Canning's (1929b: 146-158) "Synopsis of Fisher's Theory" summarises the essentials of Fisher's theory. Income, "in its most general sense, consists of services, that is desired events of whatsoever nature." The services themselves proceed from "existing material objects" but they are not to be confused with material objects (the stock of capital). Free goods or services are excluded, and "all scarce services are included in income". Scarcity, in effect, denotes that the services are economic services commanding a money price; it also "implies an appropriation" as some persons are benefited while others are excluded. Property rights are designated as the means "whereby services are customary agreed to be appropriated". Canning (1929b: 148) is at pains to stress that "there must be no identification of income with items of wealth acquired", and that the "fruit [of the orchard] is wealth – not income. The *yielding* is the service of the orchard; the *coming in* is the service of the orchardist". Relating these concepts, and measuring them consistently, challenged Canning. Without a clear view on the relationship between revenue (gross income) and assets, Canning's income theory lacks an essential anchor.

Fisher (1930a: 11) distinguished three "successive stages, or aspects", of a person's income:

Enjoyment or psychic income, consisting of agreeable sensations and experiences<sup>8</sup>;

Real income, *measured* by the cost of living;

Money income, consisting of the money received by a man for meeting his costs of living;

The last - money income - is most commonly called income; and the first - enjoyment income - is the most fundamental. But, for accounting purposes, real income, as measured by the cost of living, is the most practical.

Fisher (1930a: 250-254) favoured real income as the "most practical" for accounting purposes as it is based on actual transactions, and thus able to be quantified. Additionally, he believed that income tax should be levied on consumption with savings exempt. It needs to be emphasised that Fisher's real income is expenditure on consumption, a point apparently

overlooked by Chambers (1979: 769) in challenging Canning's presentation. Earlier Chambers (1971) appeared to have been confused by the same point when reviewing Fisher's income concepts. Fisher's failure<sup>9</sup> to use a separate term for consumption was criticised by Kaldor (1955), who pointed out that income and consumption are two different things for which two terms are needed, irrespective of what each might be called (Parker and Harcourt, 1969: 164). So Fisher's three concepts span the three stages of consumption – its financing, use and enjoyment.

Canning (1929b: 145) adapted Fisher's theory of individual income because he regarded it "... to be, by far, the best that has appeared in the literature", that is, the best economic definition. He described it as the "one primary measure of income and outgo called 'realized income'"<sup>10</sup> with two derivatives called respectively "'capitalized income' (or capital value), and 'earned income' (or earnings)" (Canning, 1929b: 154). These relationships provide the model he was seeking "to base accountants' measurements on sound economic reasoning" (PhD topic extract). Further, he believed that "for every major purpose for which information about enterprise income is wanted the earnings figure is more significant than is the figure for realized income" (Canning, 1929b: 170), thus providing a rationale for adapting Fisher's definition. This is one occasion where he did not agree with Fisher (1930), reserving his

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<sup>8</sup> Jeff Skilling of Enron fame would have applauded the concept of physic income. As Mclean and Elkind (2003: 39) explain: "He had never let go of the consultant's conceit that the idea was all ... He felt that a business should be able to declare profits at the moment of the creative act".

<sup>9</sup> Fisher finally conceded in *Constructive Income Taxation* (1942) (published with his brother H.W. Fisher) that two terms were needed. Further, in the draft of a projected book *My Economic Endeavours* (unpublished) he wrote that "I deeply regret that I had not made the change forty-five years earlier ..." (I.N. Fisher, 1956). Yield is the term he then would have used to describe his consumption based income. In his final years he came to see more clearly the disincentive caused by "double taxation" of savings, and regretted the "lost opportunities" to have promoted a simple expenditure tax. Lauded as one of two men recognized as "Wall Street's official prophets" (Galbraith, 1979: 97), his reputation with the investing public when his faith in the soundness of the market was found wanting would also have suffered.

<sup>10</sup> Canning (1929b) uses "realized income" to refer to Fisher's (1906) "real income", which refers to actual, or expected actual, expenditure on consumption. But, as noted in the text, this consumption based economic concept should be distinguished from the accounting usage which has an altogether different meaning. Why he used different definitions is not immediately apparent, especially when the initial use of "realized" differs from the accounting usage. Further, he also uses the term "realized money income" to refer to total lifetime enterprise profit.

position regarding whether realized income provided a better basis for taxation. He, of course, appreciated that as Fisher's income concept was based on individual consumption, it required an adjustment for savings in order to derive the concept of enterprise earnings<sup>11</sup>.

Canning (1929b: 154-155) derived the concept of earnings of the firm from Fisher's ideas by setting realized net income  $\pm$  change in the capital value = net receipts  $\pm$  appreciation/depreciation<sup>12</sup> = earnings. Because of timing differences with respect to consumption and expenditure, and different methods of capital valuation, the first two equalities could hold only under quite stringent conditions for an individual. But there are two clear leads to his intended meaning.

In footnote 9 Canning (1929b: 155) acknowledges that "'realized income' is different from the accountant's 'realized' income" as the former term may include future items. For example, the schedules of future consumption expenditure are discounted to obtain a capital value of the related wealth. Yet, although future orientated, in spite of the confusing description, it seems clear he is referring to future income expenditure expected to be enjoyed in the relevant future time period; that is, consumption from actual income expenditure. The first element of earnings comprising periodic net receipts is thus evidence of the transactions based approach to measurement of earnings.

The second lead comes from the concept of total lifetime income for a terminated enterprise. Canning (1929b: 99) wrote that:

The ultimate or final income, with respect to a proprietor's *whole tenure* in an enterprise, which the accountant's completed procedure finds is in entire accord, both in nature and in measure, with what Professor Fisher calls "realized money income". But neither the gross annual income nor the net annual income found by the accountant bears more than a rough correspondence, either in nature or amount, to any concept of or measure of annual income that economists speak of in their writings.

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<sup>11</sup> Taylor (1975) sparked a brief debate by claiming that Lee and Rayman had taken "too narrow a view" by confining Fisher's (1906) definition to personal consumption, and thus excluding business entities. Lee (1975) responded by concluding that it was not incorrect to interpret Fisher narrowly; that while it was possible for firms to have income, Fisher's concept of physic income logically excluded them; nevertheless, "his work has provided the foundations for a theoretically correct model of enterprise income ... which, on the grounds of practicability must be rejected" (Lee, 1975: 376). It is surprising that none of the contributors referred to Canning's (1929b: 154-155) derivation of earnings of the firm, and Fisher's (1930b) endorsement of it.

<sup>12</sup> Hence, this expression is similar to the Hicksian view that "Profit (or income) = Net receipts – Depreciation (or + Appreciation)" (Hicks, 1946: 196).

The equality of total lifetime profit or earnings of a firm with Fisher's "realized money income" for a terminated enterprise can be of significance if a periodic concept is capable of being derived from it. Emphasising the "ultimate or final income" of the firm clarifies that consumption or dividends are not relevant to the calculation. Both total lifetime profit and realized money income for a terminated entity are backward looking concepts, based on completed transactions or cash flows. Second, both concepts can be contrasted with economic concepts of annual income, which, with the exception of taxation concepts, are future orientated, being calculated by applying the rate of interest to the capitalised value. Third, realized money income in this case accords with the accounting concept of realisation. Fourth, realized money income does not include any adjustments for changing price levels; that is, there is no attempt to measure "real economic income" for a past period<sup>13</sup>.

If this portrayal is reasonable, then a concept of periodic accounting profit or earnings, which is the counterpart of "ultimate" lifetime income, can be fashioned. Such an income concept would have the following characteristics: first, it would be based on actual transactions; second, the transactions would be measured at the amount of the money flows; third, the accounting concept of realisation would apply; and fourth, adjustments for price level changes would be excluded. The accounting system for measuring this income is a number-of-dollars measurement system. This is a consistent interpretation of "realized money income" or earnings of the firm, subject to the asset "revaluations" and other accruals needed for periodic profit measurement supporting this interpretation. These are now discussed.

## **Valuation of assets**

Canning (1929b: 191) confidently sets out the *"Ideal" Meaning of "Financial Position"* in these terms:

Beyond doubt the accountants would like to mean by "financial position" a position declared by direct positive measures of funds to be provided by enterprise operations. It is equally beyond doubt that this can never be done before the gift of prevision of all future sales and outlays becomes general.

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<sup>13</sup> Canning (1929b: 196) specifically ruled out price level adjustments on the pragmatic ground that the relevant data is not available when required.

Somewhat surprising in this quote is the emphasis on operations, particularly as the earlier discussion in Chapter IX was couched broadly in terms of fund sources and distributions. That analysis concluded similarly that financial position should be based on expectations, with direct valuation, alluded to in the above quote, preferred wherever possible over indirect valuation. It is worth noting that Chapter X on *The Accountant's Problem of Valuation* outlines his rules for statistical measurement and summation, emphasising the need for a “common population” and “property (or set of properties)”.

### **Direct valuation**

Direct valuation is possible “when, and only when, a realized money income exists and is statistically determinable” (Canning, 1929b: 207). Again, the ideal is expressed in these terms: “If one could approximate the whole future series of money outgoes and of money receipts of an enterprise, one could find, given a rate of discount, a direct capital value of the enterprise”. But then practicalities mar this picture. In the end direct valuation is restricted to accounts receivable, notes receivable, short term debts and investments. The first three listed will be shown at the amount of the relevant transactions less any allowance for bad debts. Regarding investments in bonds and other instruments or contracts that are readily capable of direct valuation, Canning, (1929b: 212) simply states that they “are usually properly valued in the sense that appropriate effect is given to waiting periods”, in effect signalling adjustments for a premium or discount on issue. Apparently his comments here were limited to short term investments in bonds.

### **Indirect valuation**

Valuation of the fixed assets used in production poses problems due to difficulties in estimating the net revenue attributable from their services, particularly in the common case of joint production. Thus calculation of the ideal capital value is all but impossible. In contrast, calculation of cost, or written down cost, of the future services of the asset is an achievable task which Canning refers to as accounting valuation. For example, he writes that the “‘natural services’ of such an assembly as a steam plant can be more nearly approximated than can future sales receipts. Steam generated may be used for indefinitely many final purposes ...” (Canning, 1929b: 208). A consequence of depreciable assets being able to be used for “many final purposes” is that it is a relatively more objective task to estimate the

cost of the future services rather than to estimate the future net revenue. In addition, the emphasis of services is consistent with their central role in the measurement of earnings.

Depreciation policy is also referred to as “revaluation technique”. The objective of this technique is to estimate the cost of the future services expected from the asset, subject to this cost not exceeding the cost of the most economical available alternative means of providing the services. Canning (1929b: 241) described this latter concept as “opportunity differential” and was at pains to distance it from the replacement cost of the particular assets, which he did not favour. Canning (1929b) devotes three chapters to indirect valuation and “revaluation technique”, the latter being the essence of his indirect valuation. It was described by Devine (1985, V.5: 88) as “one of the best available for handling indirect valuations”.

Earlier, in discussing his concept of assets, exchangeability was stressed as an essential aspect of assets, and one which prevented the recognition of goodwill. Goodwill, when it appeared in the balance sheet (presumably as the result of a transaction) was to be regarded as a “master valuation account”. While thus relieved of the problem of explaining goodwill as an asset, the omission appears as a significant gap in his overall theory.

Different interpretations have been placed on his discussion of replacement cost. Gibson (1993: 43) first noted that he appeared to support replacement cost, and then quoted Canning’s own words, and the even stronger words of Previts and Merino (1979), in denial. Whittington (1980: 238) drew attention to Canning’s emphasis that it was the *service* not the agent for which the opportunity difference or replacement cost should be sought; and, that although Canning did not postulate the concept of value to the owner, Whittington believed that he did influence Bonbright on this issue. Canning states emphatically that an increase in replacement cost of an asset should not be incorporated in the “book valuation”, writing that the machine “is worth no more ... than a price to yield ... service in the required amount at a cost per unit equal to the cost per unit by the most economical alternative means unless that valuation should fall below the resale value of the machine less the cost of selling it. That is, if the technical-use differential value [opportunity value] is less than the direct sale value the latter should be recognized” (Canning, 1929b: 243 [my insertion]). Inventories are the final asset to be considered.



The discussion of merchandise inventories further exposes the incompleteness of his ideas. After noting the extension of the cost basis to “cost or market, whichever is the lesser”, and variations in practice, he states that “[t]he writer does not believe that any best ‘all-purpose’ rule for the indirect valuation of inventories is capable of formulation” (Canning, 1929b: 217). It may not be unreasonable to suggest that Canning refrained from recommending any “all purpose” rule because he felt that different treatments were appropriate for calculating the cost of goods sold expense (cost or market), and for showing inventories in the balance sheet (market selling prices less profit margin).

Going concern in this context is defined “ideally, to mean ‘that valuation which would be most significant and useful to the owner or prospective owner of the valued thing in the conditions and circumstances in which it is held’. This amounts to saying that the valuation should be dependent solely upon the contemplated use of the valued thing in the operations of the enterprise. ... this ... is the bringing in of money funds” (Canning, 1929b: 218-9).

Emphasis of the *bringing in of money funds* is consistent with the interpretation, for a going concern, of a “realised money income” as being dependent on a transaction. Two pages later Canning (1929b: 221) disclaims responsibility for developing a policy on inventory measurement, stating that:

This book is not the proper place in which to set out a fully developed discussion of inventory valuation; the purposes of the book are satisfied by a sketch of conventional practices, mention of what appear to be true recent advances, and the bare outlines of a scheme toward which it seems desirable to work.

His actual suggestion is to supplement the cost or market rule “not only to find figures appropriate for carrying value in the balance sheet and for use in determining cost of goods sold but also to find figures that show the position of the concern in the market in which it buys (or manufactures) and in the market in which it sells”. He claimed that each of the three aggregates of cost, market (replacement cost) and net selling value (to yield some named rate on the investment) has a “special significance”. Finally, in his summary of inventory valuations he appears to favour a direct valuation provided it is sufficiently reliable as an index of funds to be produced. However, he also noted that “[a]lmost any two valuations can give more reliable information than either taken alone” (Canning, 1929b: 227). While this may be a perceptive comment in terms of general usefulness to inventory managers, it fails to

articulate what should be measured in accordance with his concept of income based on future services.

In outlining the advantages of multiple valuations, Canning notes the “conservatism” of the cost or market rule varies depending on the stage in the trade cycle, commenting that the rule is least conservative when conservatism is most needed (in times of falling prices, for example) and it is most conservative when conservatism is least important (in times of rising prices, for example). His views were formed in part by the difficulties of moving stock in the depressed conditions of 1920.

Summarising his views on asset valuation, while capital value (capitalised present value) is the ideal being sought in both direct and indirect valuation, he acknowledged that the ideal is virtually unachievable. Direct valuation is preferred where reliable measurements of “realized money income” exist. Where such measurements are not available, depreciable assets are to be valued by their future services at cost provided this does not exceed their opportunity value. And, if opportunity value is less than net realisable value, the latter amount should be used. Thus, assuming cost, or written down cost, exceeds both the opportunity value and the NRV, then the cost should be written down to the higher of them, suggesting another version of the recoverable amount rule. Perceptive comments were offered on the variable role of conservatism. Yet Canning stopped short of developing a comprehensive view of inventory measurement, preferring instead to emphasise the information value of multiple measurements, any two of which were better than one. However, in emphasising the value of inventories “as an index of funds to be produced” or “the bringing in of money funds”, did Canning sense that this was a different concept from the future services advocated for fixed assets? For the latter, although the ultimate value concept is earning money funds, the concept of services is asset specific – it is intensive rather than extensive; and to interpret future services as money funds introduces a different concept. Purchased goodwill is another asset he was apparently unable to incorporate within his framework.

His suggestion for including a schedule disclosing the book values of assets at the end of the past five periods together with the enterprise earnings, the percentage relation between

earnings and book value, perhaps reflects his view of the tentative nature of periodic profit measurement, as well as the usefulness of this past information for assessment of future profitability.

## **Owners' equity and liabilities**

Canning's (1929b) concepts of owners' equity and liabilities are now analysed to ascertain the property selected for their measurement. At this stage it is clear that identification of a "common property" capable of including all the accounting elements is proving elusive. Proprietorship and liabilities are considered first, then gross income (revenue). The previous discussion of merchandise inventories informs debate on the latter. Reserve accounting, including sinking funds, and the purposes for which they are appropriate, were discussed by Canning in Chapter V without raising the issue of the underlying measurement property and thus do not warrant consideration in this context.

Gross proprietorship is distinguished from net proprietorship. The former is defined as the "*entire beneficial interest of a holder of a set of assets in those assets*" (Canning, 1929b: 55-56). Liabilities, defined as "*a service, valuable in money, which the proprietor is under an existing legal (or equitable) duty to render to a second person (or set of persons) ...*", must be deducted to obtain net proprietorship, which Canning (1929b: 56) claims "cannot be qualitatively defined except as a mere difference"<sup>14</sup>. Here Canning is in surprisingly modern company, the CF Joint Project (2008) refraining from separately defining owners' equity and leaving open whether it should be treated as a residual classification. As to the relationship between liabilities and net proprietorship, Canning (1929b: 51) was unequivocal in his view that "the association ... of liabilities and net proprietorship as though these two quantities were coordinate ... cannot but be misleading to those not fully informed".

Canning (1929b: 58) also draws attention to limitations of the definition of gross proprietorship, writing "[b]ut the valuation of proprietorship, being identical in amount with the summation of the assets, is determined by *unlike methods of measuring* as between one kind of asset and another ... and the assets and liabilities are unlike one another in origin or

purpose”. Presumably Canning is referring here, not to the measurement methods he proposes based on “future services”, but to the confusing array of accounting valuations found in practice. He missed the opportunity to point out that future services underpin measurement of most assets. Considering the stockholders’ funds of a corporation, Canning (1929b: 71-2) states that the capital stock when used without qualifying words, may be expressed as follows:

That minimum amount of net (or liability free) estate of the corporation in its assets which the corporation cannot lawfully reduce by voluntary dividend or redemption distributions to its shareholders without the consent of the state of its domicile.

While this alludes to the capital maintenance concept, it does not identify a particular concept of capital<sup>15</sup>. He defines surplus, used in its most general sense, as “merely the excess of the corporation’s estate in its assets, the excess of its proprietorship [total assets] as defined above, over the sum of its liabilities, its subordinated debts, if any, and its capital stock. A deficiency merely measures the excess of the three latter items over the proprietorship” (75). The use of the term “merely” twice confirms his view that these were not separate elements in their own right, but were subordinate to net assets. Surplus, or retained earnings, is the other main item comprising owners’ equity. Earnings is, of course, a net concept comprising gross income (revenue) less expenses.

## **Gross income, or revenue**

To explain gross income, Canning (1929b: 95) uses a definition that “does qualitatively fit that which the accountant will ultimately have treated as income”. His definition reads: “*Ultimate total income is the final fruition in money both of the enterprise assets and those other services not listed as assets that prove, nevertheless, to have the economic attributes of assets*”. He emphasises “that it is not *money* but the *conversion* into money through exchange or otherwise” that is significant, while recognising that the “*amount* of the conversion is numerically equal to the *amount* of the money so acquired, just as the amount of a sale is equal to the money obtained, or to be obtained, as a result of the sale”. Money

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<sup>14</sup> See Kerr (1989) for a discussion of whether net assets and owners’ equity are two terms but “one concept”.

<sup>15</sup> Canning (1929b: 169-170) emphasised that proprietors wished “chiefly to know what *net changes in power to command future final income have occurred within a year by reason of the enterprise activities*. Not only is this information requisite to a proper determination of shareholders’ investment policy, but to considered decisions about their scale of living income to be planned for the near future”.

and the income - the *incoming of money* - are clearly distinguishable. It is this incoming or fruition in money that provides the “common qualitative nature attributed to the above term [ultimate total income]”. Thus “money”, the asset, is distinguished from “conversion” into money (of previously held assets).

Canning (1929b: 93) bemoans “an astonishing lack of discussion of the nature of income”, but notes that most of the discussion “is limited to the measurement of income that is attributable to, or is to be assigned to, a particular time period that is *past*”. Yet he has sufficient confidence to proclaim that:

No pretence is made that this term, ultimate total income, or any other corresponding to it is in use among accountants, but a quantity does inevitably come into existence, the valued items of which have the common qualitative nature attributed to this term above. It is, in a sense, only a concept implied in what the accountant does. The concept has a number of conveniences. The most important of these is that it describes a real thing, real not only in the sense that it inevitably results from what accountants do, but also in the sense that it describes an actual state of affairs. It is a matter of fact (Canning, 1929b: 95).

So what is the “matter of fact” that Canning sees in all of this? His emphasis of exchange transactions and a period of time that is past provides a starting point. Regarding sales revenue, he notes that the “date of the sale, rather than the date of collection, determines the period in which the income will be counted” (Canning, 1929b: 102), but then, in the next paragraph he appears to overlook the significance of what he had just written with the remark that “[t]o give an accurate and comprehensive expression of what the accountant considers to have been ‘effected within the period’ is difficult.” Yet his claim that that operating revenue is actual, or a fact, can be evidenced on the basis of sales resulting from executed contracts. However, when financial revenue is added to the operating revenue to get gross income, Canning (1929b: 100) abandons this claim with the admission that the gross income for a period is a “mere summation” as “the two classes of income have nothing in common that is peculiar to gross income”.

Canning’s tentativeness appears to be matched by the IASB and FASB in their Joint Discussion Paper titled *Preliminary Views on Revenue Recognition in Contracts with Customers* (referred to as the Joint DP on Revenue Recognition (2008)). While fair value is the favoured concept in their current mixed model, the joint bodies are evidently proposing a

radical departure which could have far reaching implications. The Joint DP on Revenue Recognition (2008: 8) notes that “the proposal would apply to contracts with customers” and that “the boards have not excluded any particular contracts ...”. The essence of their proposal is that revenue would be recognised on the basis of “increases in an entity’s net position in a contract with a customer” (Joint DP on Revenue Recognition, 2008: 9). The rights referred to here are property rights which the contract, on execution, changes and the obligations are those for the delivery of goods and services, and the net position is the net change in property rights, both positive and negative. This proposal has yet to be fully developed, and it could go in a number of different directions or its scope could be restricted. Nevertheless, it has the potential to change the conceptual basis of accounting standards for profit measurement. If these changes are implemented, then their extension to all profit measurement should warrant evaluation.

## **Net income**

In contrast to the many economic concepts of income, Canning (1929b: 126) claims that “one may properly speak of accountants’ concept of net income rather than their concepts”, a conclusion derived from the many accounts he examined. But this singular concept of net income is devoid of any “qualitative attributes”, and it falls far short of Fisher’s (1906) “ideal income”. Canning (1929b: 135) sets out six components of his *statistical* “ideal” or “standard” income, but then is “doubtful” about its achievement, mainly due to the impossibility of calculating the economic value of fixed tangible assets. It is then in the following Chapter VIII that he outlines his reasons for adapting Fisher’s concept of realized income to derive earnings. But having arrived at earnings as the profit measurement he judged most relevant for his stated purposes, the next step of detailing the required changes in practice to implement it are missing. Whittington’s (1980) plea for a detailed example of accounts is echoed here. Canning (1929b: 168) writes, for example, “that which is reported is neither a measure of what Fisher calls realized income nor of earnings. It is a mixed index of the two”. These comments cry out for tabular treatment highlighting the differences, and demonstrating the superiority of his concept of earnings.

## **The final book chapter, *Chapter XV Summary and Forecast***

Divided into three parts, namely, professional differences between accountancy and

economics, prospective betterment of accounting data, and the economists study of accountancy, the opening statement confirms Canning's (1929b: 310) conclusion that accountants and economists "have had important diverse interests. At no time can either's field of learning be looked upon as including the other's; nor is either calling an offshoot of the other." From the perspective of assessing whether a qualitative, empirical property which embracing the accounting elements can be identified, early sections in the first part on *Theory of Income*, *Theory of Production* and *Theory of Value and Valuation* are relevant.

In the first, Canning stresses that, from the economists point of view, the accountant is mainly concerned with income and the associated expenditure. He portrays the accountant's concern here as being of "money-valued income and money-valued outgo in their most general sense, that of a series of events which each give rise to an element of service and an element of disservice. ... Their methods and techniques readily lend themselves to the treatment of individual money-valued income." Further, in "a regime in which the institution of private property and private enterprise and the money and credit economy prevail, a money-valued accounting may only be expected" (Canning, 1929b: 315).

Whereas in the theory of production the economist is "chiefly concerned with the *whole of the services* that these agents [factors of production] can be expected to render to society in general", the accountant "has to consider only the services of these agents that are *available in the operations of a particular enterprise*. He weighs the significance of even these, not by their importance to society, but by the extent to which their money value *can be appropriated* by the proprietor of the enterprise" (Canning, 1929b: 316).

The theory of value and valuation in this final chapter omits the mantra that capital value is the ideal. Instead, in relating the economic theory of value to accounting, Canning (1929b: 317) explains that "it is only by an accidental coincidence that his valuation of tangible things is identical in scope with that of the economist in any instance." He also notes the "[n]either the valuation of income and expense in a particular period, nor the valuation of the future available service is, in the first instance, the business of the professional accountant." These valuations are the responsibility of the proprietor, acting through the manager of the enterprise. Economists are exhorted to make their own translations of accounting data to

gather relevant statistics for explaining the behaviour of men of business (Canning, 1929b: 322). Regarding accounting measurement, Canning (1929b: 328) expresses the opinion that it is “still too early to give the name of ‘principles’ to more than a few elements of accountancy”, believing that “working rules” is a better description of most procedures.

The final section returns to the issue of the economics relevant to accounting. He quotes criticism, from the presidential address of Professor Mitchell in 1924 to the American Economic Association, of the English economist Alfred Marshall’s view that “qualitative analysis has done the greater part of its work” and the more difficult task of “quantitative analysis” awaits improvements in statistics. But quantitative analysis “shows no more promise of providing a statistical complement to a pure theory when Dr Marshall pronounced his dicta. I think this view is correct if the pure theory we have in mind is theory of the type cultivated by Jevons, or Dr Marshall himself.” Canning (1929b: 332-333) continues “[c]lassical theory, neo-classical theory and the work of the eclectics is, however, headed for the scrap heap.” He then goes on to make the case once again for Irving Fisher’s theories to bridge the gap between the old and the new, arguing that income in its most general sense is a fundamental concept of economic science.

In spite of Canning’s heroic efforts, in his book he did not succeed in identifying a qualitative property capable of embracing all the accounting elements. The several rules and concepts for asset measurement were summarised on page 24. Fruition in money was selected for gross income; and beneficial interest for proprietorship. By the end of the book, future services is in danger of being replaced as the main concept by money-valued income which can be appropriated by the proprietor. Further, by the last chapter the fundamental divide separating his ideal economic measurement from its practical accounting counterpart has become muted.

No concept of capital maintenance was enunciated. And his clarity with respect to total lifetime profit measurement for a terminated enterprise, was not extended to periodic profit measurement for continuing entities. While he claimed that gross operating profit (sales revenue) was a definite figure, “a fact”, the best he could claim for net realised income (periodic accounting profit) was that as a concept, it was universally held by accountants, but



one which had no qualitative counterpart. Apparently he was not prepared to identify any of his accounting propositions as principles. His definitions may have been a good starting point, particularly as they contain the two elements, future services and money-valued income, apparently competing as the fundamental measurement property in his system.

### **Canning's Accounting Review article: "Some divergences of accounting theory from economic theory" (1929a)**

This paper, published in March 1929, was read at the December 1928 conference of the AAUIA. Whereas the thesis was addressed both to accountants and to economists, the audience for this paper was clearly accountants. The main motivation for this paper was to report his renunciation of an "earlier belief" that professional public accountants needed to have a thorough knowledge of economic theory, particularly the classical theory of value and distribution (Canning, 1929a: 1). Secondary motivations were to distinguish the accountant's valuation at cost from the economic concept of capital value, and to explain why the market capitalisation of a company's securities differs from the book value of equity. "Going concern value" (valuation at cost) is touched upon, and, in the course of an example, he uses the expression "monetary profit". Finally, he stresses yet again the relevance of Fisher's concept of income. In order to communicate the strength of his views, Canning's words are quoted where appropriate.

Regarding his embarrassing renunciation, he wrote:

I hardly know now whether to say that my earlier belief was a mere act of faith or that my conception of economic theory is now so different from those brands professed by the classical economists and by Jevons, Marshall ... as to constitute an entire shift of ground (Canning, 1929a: 1)

In contrasting writers in accounting theory and writers in economic theory, he maintained:

(1) that they adopt wholly different modes of analysis; (2) that they take into account a vastly different scope of subject matter; (3) that their major topical divisions in systematic writings have almost nothing in common; (4) that they concern themselves almost entirely with diverse problems; and (5) that the points of view taken toward method, subject matter, and specific problems have little in common (Canning, 1929a: 1-2).

Having noted that the “interests of the two professions are almost wholly diverse”, Canning explains the difference between economic value and accounting valuation as follows:

As the theory of value constitutes the very vitals of economic theory so also does valuation constitute the chief technical pre-occupation of accounting theory. Just so, but note the difference in my terms: for the theory of *value* can be, and is, different from the theory of *valuation* in everything but subject matter under consideration. ... The accountant does not wish, and has no reason to wish, to explain value. The accountants’ theory of valuation of fixed tangible assets overturns neither the classical theory of value, nor the theory of capital valuation, but it does ignore them. It is independent of them. Moreover it works (Canning, 1929a: 1-2).

Explaining next why the capitalised market value of the firm’s shares differ from the book value of its equity, he states:

There is nothing whatsoever in accepted accounting procedure (though there are some mistaken statements in the writings on accounting) to support the notion that accountants are trying to find any figure for the capital value of enterprises. No one knows better than the accountants the difference between the cost of the assets and the capital value of the enterprise. ... But there is nothing in the statistical procedure of the accountant that implies either that these valuations are capital valuations or that the sum of them bears any simple relation to the capitalized value of a concern’s earning power. These valuations and capital valuations are of such different order statistically that they cannot be translated by any formula from one form to the other in either direction (Canning, 1929a: 6).

In concluding his paper, Canning (1929a: 8) was able to quote from a paper of Fisher (1924) the view he had expressed in his book emphasising the central role of income, and reading:

I believe that the concept of income is, without exception, the most vital central concept in economic science and that on fully grasping its nature and interrelations with other concepts largely depends the full fruition both of economic theory and of its application to taxation and statistics.

Canning then continued:

As a student both of accounting theory and economic theory I concur fully. Income is not only “the most vital central concept in economic science”; it is also the *simplest and most fundamental*. And only by *beginning* with that which is simplest, or most elementary, can we hope ever fully to develop and understand the more complex concepts. Here, if there is one at all, is surely the meeting ground of the accountant and the economist. ... For income in essence is service - the desired element in economic events.

Although Canning contributed little to accounting theory subsequent to the 1929 article, several of the additional articles listed by Zeff (2000) warrant mentioning as they reflect his awareness, apparently following Fisher’s review, of the relationship of earnings to cash

flows. Their analysis follows Fisher's review.

## **Fisher's review**

Fisher (1930b: 68-69) appears to have understood the essence of Canning's "earnings" for a business enterprise. What is more surprising - indeed, it seems bordering on astonishing given Fisher's (1906) views on the centrality of present values - Fisher accepted the accounting approach as being valid for its purposes. He not only played down Canning's vagueness at several points in accounting measurement, but he provided an explanation based on the central role of cash flows and incomplete transactions. He wrote, for example:

In an ordinary modern enterprise ... the whole problem of services is that of bringing in or paying out money and, since the money flows irregularly, the valuation of these flows fairly allocated to short periods can never be given an exact meaning. The accounting for all gains and losses can never be given completely and accurately until the business is wound up. ...

The income and outgo for a given week cannot consist merely of the money transactions which happen to occur within that particular week. There may be none; or there may be a whole quarter's disbursements. We must obviously include only the pro rata share for that week of big items occurring before and after that week. It is this pro-rating, or spreading over time, of the irregular and unequally lumped receipts and expenditures which makes the chief trouble for accountants. These pro-ratings are necessarily estimates, not facts. The only actual facts of corporate income are the money receipts and expenditures in all their jagged irregularities; but unless there is some pro-rating the results of accounting are of little practical use.

Without doubt Fisher endorsed the accounting concept of profit, although nowhere in his book did Canning (1929b) spell out the essence of periodic profit measurement so simply and clearly. Transactions are specifically mentioned. With the clarity and understanding of profit measurement shown by the above statement, most of his other comments fade into relative insignificance. He concluded his review of Canning by writing "[h]is book points the way to a sounder science of economics as well as better theory and practice of accountancy" (Fisher, 1930b: 81). However, in a comprehensive review that ran to 16 pages, Fisher did demur over Canning's treatment of several items which are worth mentioning.

He noted that Canning described "gross income" as a "mere summation ... a measure only" as it is the summation of two classes of income (operating and financial) that have nothing in

common, and that net income is “merely a difference”, lacking a qualitative nature (Fisher, 1930b: 69). Although he noted that “Professor Canning closely links the income concept of a series of services with the concept of assets” and that “the essential idea of an asset is that it stands for a separable series of *future* services”, Fisher (1930b: 70-71) did not use the linkage to clarify the relationship between income and assets. He recognised that past costs are used by “accountants chiefly, if not solely, as a means of valuing future or anticipated services” (Fisher, 1930b: 72).

Fisher (1930b: 73) has difficulty in accepting that “good will” is the “difference between the value of the whole combination and the sum of the values of the individual parts taken piecemeal”, noting that this interpretation might pervert the meaning of the term, or extend it so as to include other intangibles, like patents and trademarks. Fisher then suggests that it might be better to return to the original meaning of the term “as one of the many kinds of intangibles, namely the probability of continued patronage of satisfied customers”. Noting that it is “seldom, if ever, possible to separate ‘good will’ from other intangibles” he claims that “it is the ‘going-concern excess’, which has the useful meaning - the excess of the total valuation over the sum of the valuations of the separable parts”. Yet where the goodwill is evidenced by a transaction, or “for any other reason has a specific measurable valuation, the accountant is justified in placing a value upon it ...” (Fisher, 1930b: 74), thereby going further than Canning on recognition of goodwill.

Canning’s characterisation of net proprietorship (similarly to net income) as a “mere difference”, lacking qualitative definition was also noticed by Fisher (1930b: 75), who raised the related question of whether the “equation of accounts” was “an identity or an equivalence between three independently measurable magnitudes?” This issue remains unresolved today in the revisions of the conceptual framework being undertaken jointly by the IASB and the FASB. Fisher (1930b: 78) also noted the Canning regarded a “modification of the service unit formula” as “the best, since it possesses none of the demerits of the other formulas discussed ...”. Overall, Fisher demonstrated a well rounded understanding of Canning’s income theory.

He appeared to be sympathetic to Canning’s suggestion for special purpose balance sheets,

each endorsed with the specific purpose it was designed to serve, so that anyone who chose to use a balance for other than the intended purpose would do so at their own risk. Canning (1929b: 88) concluded this topic by asserting “certainly it is illusory to hope that any all-purpose balance sheet can ever be well suited to each legitimate class of use; statistical compromises are never successful statistically”.

In light of the central role throughout Fisher’s career of his efforts to “stabilize the dollar” it is perhaps surprising that he did not mention in his review “stabilized accounting”, or “accounting for inflation”. Canning (1929b) raised the topic but briefly (pp. 92, 167, 196-7 and 204-5) giving the need for price level adjustments in accounts short shrift. The last reference mentioned referred to Fisher’s book *The Making of Index Numbers*, but simply as an illustration.

### **Later articles, including two by Nelson**

First, in an article on the relationship of cost of production to market price, Canning (1931: 164) took issue with the economic theorising of J.S. Mill and Alfred Marshall, writing that “until there is ground for hope that the essential estimates can be transferred from the realm of make believe to the world of buying and selling, the classical and neoclassical theory of the relation of cost to price can be no more than a form of esoteric philosophy” and while the “‘economic man’ of the classical economists has a rational mind, he lacks legs of truth”, confirming his rejection of neoclassical economics.

Canning (1933: 53) charged accountants with a “certain erratic tendency” in allocating fixed costs (and fixed charges) to accounting periods, the tendency leading to the distortion of periodic profits. His well made point is that during “boom” times fixed costs allocated as expenses are significantly understated, whereas when output and prices are falling, periodic allocations are too high. He recommends a formula for fixed cost allocation which takes into account volume and price changes, capacity usage and obsolescence (rather than simple straight line allocation of depreciation) to address the problem. This is a natural extension of work in his book reviewing the effect of different depreciation formulas on nine different asset types where he demonstrated the superiority of a service based approach over the straight line method (Chapters XIII and XIV, and Appendices A and B). However, the

relevance of this article in the current context lies mainly in his summary of the time series used for the measurement of periodic profit<sup>16</sup>.

Canning sees the accountant's problem as being "to convert the time series of actual outlays and receipts into an equivalent series of income and expenses. This conversion is, in essence, a matter of leading and lagging time series and of distributing the leads and lags." Canning's use of the expression "leading and lagging" cash flows for periodic profit measurement is suggestive of Fisher's (1930b) more colourful language in describing the same problem (previously quoted). It serves to show that Canning has understood the significance of Fisher's description. He also confirms the significance of the date of sale for revenue recognition, an issue on which he had earlier appeared ambivalent. Further, his summary here provides meaning to the expression "monetary profit" which he first used in his 1929 article; and anticipates its use by the Institute of Chartered Accountants in England and Wales (ICAEW) in their evidence to the UK Company Law Committee (1962) to describe accounting profit, and which first appeared in recommendation N15, *Rising Price Levels in relation to accounts* (1952). In addition, this concept of monetary profit is relatable to the concept of money capital outlined by Schumpeter (1954: 323).

Turning now to the papers of his colleague, Nelson (1935), the first was largely a mirror image of Canning's views, reflecting the primacy of income measurement and asset valuations based on future services. Fourteen of the 21 references were either to Canning or to Fisher. But it also echoed Canning's uncertainty with respect to the reasons for measuring depreciable assets at cost, and the nature of proprietorship. Nelson struggled, as Canning did before him, to explain owners' equity and its components. Their problems stem directly from viewing it as a mere difference, incapable of being explained qualitatively in its own right. In the measurement of revenue and expense Nelson (1935: fn. 316) claims that many authors confuse the measure with the subject of the measurement, and goes on to say:

Revenue is sometimes defined as an increase and expense as a decrease in net worth.

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<sup>16</sup> In commenting on *The Securities Act 1933* Canning (1934:48) nominated two causes of "blameworthiness" for the "over-indebtedness" which lead to the then current depression. Accounting procedures (that is, the "certain erratic tendency" discussed above) were one cause, with the other being American investment banking, which he described as the "chief villain of the piece". In a classic piece, he wrote: "In seeking new issues to feed a ravenous public, disregard for the debtors' ability to pay, for the possibility of effecting payment by willing and foreign debtors, ... the governing consideration seems to have been 'can the issue be sold at a handsome profit?'"

The qualities of net worth are those of an arithmetic difference. It is a measure only. A revenue or an expense may *result* in an increase or decrease in the quantity, but neither can itself be a change in the magnitude of a measure.

It appears that, in spite of earlier quoting Fisher in support of the distinction between the “correlative terms” of wealth [assets] and property [proprietorship], Nelson, similarly to Canning, appears unable to apply the logic of double entry to a sales transaction for the simultaneous increase in the asset, and in proprietorship (revenue). Their failure may simply reflect their vagueness about proprietorship, which it will be recalled Canning had described as a “mere difference”, rather than as an accounting element existing in its own right.

In 1941 Canning had taken leave from the Stanford department to work full time as an economic adviser to the Secretary of Agriculture. Apparently he was upset at the department’s failure to continue Nelson’s employment (Zeff, 2000). At the outset Nelson (1942: 132) stated that the article was “founded” on Canning (1929b), and that it seemed “practical to give a general acknowledgment rather than the many particular citations.” However, the analysis begins by listing three assumptions outlining going concern, and then four postulates, themselves “self-evident truths about profit and loss”. The essence of the going concern assumptions is that “the proprietors have reason to *believe* that they will continue to buy and sell goods throughout an indefinite future”, and that it is to their advantage to do so. The four postulates are quoted in full; they apply to all “transfers of money’s worth affecting the enterprise, except proprietary investments or withdrawals”.

1. Over the life of the business, there is a one-to-one correspondence between the amount of revenue and the amount of cash receipts, and between the amount of expenses and the amount of cash disbursements;
2. The total profit for that time-interval (positive or negative) is equal to the difference between the total cash receipts and the total cash disbursements;
3. Within any lesser time interval, the amount of revenue is equal to the amount of cash receipts attributable to bringing enterprise operations to some particular stage during the period; and
4. Within such a fiscal period, the amount of the expense is equal to the amount of disbursements necessary to obtain the revenue for the year (Nelson, 1942: 133).

It will be recalled that Fisher (1930b: 68) wrote that “[t]he only actual facts of corporate income are the money receipts and expenditures in all their jagged irregularities; but unless there is some pro-rating the results of accounting are of little practical use”, and that Canning

(1933) had described measurement of accounting profit in broadly similar terms. Nelson's postulates develop in more detail the Fisher characterisation of what Canning (1929a) referred to as monetary profit.

This article witnessed what may be regarded as a more clearly expressed conventional view of financial statements. Nelson (1942) chose revenue and accounts receivable to demonstrate the relationship between the profit statement and the balance sheet, the purpose of his second article. He concluded that "[w]e prepare a balance sheet as a check - a revaluation, so to speak - of our distributions between the past and the future. ... the balance sheet and profit and loss statement are complementary: each completes the picture by presenting a different aspect of enterprise receipts and disbursements." Clearly, similarly to Fisher (1930b), he envisaged a number-of-dollars measurement system.

## **Concluding comments**

Chambers (1979) singled out two features of Canning's overall approach to theory development for special mention: first, his commitment to rigor in formulating definitions of terms used in analysis; and secondly, the need for specification of the rules applicable in measurement. Smith's (1974) assessment of Canning as a groundbreaker in the development of accounting theory and as having much to offer future graduate students has also stood the test of time. Whittington (1980) believed that Canning influenced Bonbright (1937) in his development of the concept of deprival value. Gibson's (1993) Jubilee review highlighted the significance of his definitions of the accounting elements, the continuing relevance of rules for revenue recognition and for special purpose reports – all issues that resonate today. Zeff (2000) and Williams (2003) trace the significant influence on later writers of his development of the concept of services. Whether or not this was a "false dawn", similarly to the rise (and fall) of future economic benefits, remains to be resolved.

Most of Canning's efforts were directed at applying Fisher's (1906) theory of individual "real income" to the measurement of enterprise earnings. He pursued this topic with conviction, initially believing that economic science would provide a sound basis for accounting measurement – that, after all, was the objective of his PhD, and Fisher, his mentor, had



pointed the way. Many times throughout the book Canning (1929b) reminds readers that economic value was the ideal for measuring assets. The oft repeated theme espousing the ideal is muted by the final chapter, and then is emphatically rejected in his 1929 article along with classical and neoclassical economics. Not only has Fisher's income theory retained its relevance, but his insights in other areas can contribute to an understanding of accounting, for example, his definitions of property and wealth and the functions of money. Fisher's overall influence may have been greater had he responded much earlier to the criticisms of his consumption based concept of income, and if he had not been so spectacularly wrong in his faith in the American share market – a faith that cost him the family fortune.

The main task for this paper is to evaluate Canning's search for a qualitative property capable of relating all the accounting elements. He apparently appreciated the need for such a property, and as an econometrician possessed the required skills. Commencing with his definitions of assets, liabilities and proprietorship he set about building the concepts into a system for application to accounting. Direct valuation, where a "realized income" exists is the preferred valuation. However, this method is restricted to accounts receivable and similar short term assets evidenced by a transaction. Thus, indirect valuation with future services as its cornerstone, is used for fixed assets with the cost amount carried forward capped at the "opportunity differential" of the future services, or NRV if higher. Devine (1985) praised Canning's method of calculating depreciation based on services. While refraining from recommending specific rules for inventory measurement, his measurement objective here was "the bringing in of money funds". So no common qualitative element was identified.

Neither was Canning (1929) able to extend services as the unifying property to the other elements, particularly proprietorship which he struggled to explain except as a residual. Regarding "gross operating income" or sales revenue, he identified "fruition in money" as the qualitative property. But he declared that neither "total gross income" nor "net realized income" had a qualitative counterpart. In the final chapter summary, several references to money were reflected in the terms "money-valued income" and "money-valued outgo" so that *money* comes to rival *services* as the property being measured. He acknowledged the business context, including the institution of private property, private enterprise and appropriation, in which "a money-valued accounting only may be expected" (Canning,

1929b: 315). Both money, including conversion into money, and services, are essential elements of his definition of assets. While clarification of the significance of services and money is a substantive and enduring contribution, neither concept was explained as being sufficiently extensive to qualify as the qualitative, empirical property.

In adapting Fisher's (1906) concept of real income, Canning (1929b: 155) set earnings equal to the periodic net cash flows plus (minus) any change resulting from asset revaluations, anticipating the similar expression of Hicks (1946: 196). Apart from contrasting earnings to "net realized income", he appears to have done little to develop it further, or to apply it. No example of its application in profit measurement is provided. Earnings, as defined, gives a direct link to net cash flows. Net cash flows are likewise emphasised by Canning's equation of total lifetime accounting profit (the sum of periodic accounting profit amounts) with Fishers "total lifetime income" for a terminated enterprise. However, he does not use the characteristics of this concept (past, realised, transactions based, money flows) to explain his periodic profit concept of earnings. Thus, his central concept appears to have languished.

Fisher's (1930b) review is extraordinary for its simplicity and clarity, particularly for cutting through much of the rhetoric; and, in effect, for describing periodic profit measurement as an "adjusted cash flow" in which transactions applicable to more than one period must be "pro-rated"<sup>17</sup>. In a later article Canning (1933) in effect endorses this approach, while also acknowledging the significance of realisation for recognition of revenue. These concepts were further elaborated in two articles by his colleague, Nelson (1935, 1942). Thus, there is evidence for concluding that Canning and Fisher jointly provided an explanation of conventional accounting, including the concepts of realisation and cost allocation. Regarding the latter, it should be acknowledged that Canning's concept of depreciation based on services was innovative, as was his "cap" on the written down cost to be carried forward, and thus unlikely to have been generally applied, perhaps explaining his reluctance to identify any accounting principles he would grace with that title. However, meaning is provided to the term monetary profit (Canning, 1929a), anticipating its later use by the ICAEW.

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<sup>17</sup> This appears a clearer description of profit measurement than expressions such as "price aggregates" and "measured consideration" used by Paton and Littleton (1940) in their classic explanation of HCA.

His approach, and the problems he encountered, has direct relevance today to the current revisions being undertaken of the conceptual framework by the IASB and the FASB.

Canning's contribution is not that he resolved the issue of what is being measured in accounts but rather that he attempted the journey, and in doing so, signalled the way ahead. Further, the interest and excitement that his work continues to invoke in researchers is evidence of its enduring value.

## References

- American Accounting Association Committee on Concepts and Standards for External Financial Reports. 1977. Statement on Accounting Theory and Theory Acceptance, (SATTA).
- Ball, R. and Brown, P. 1968. An Empirical Evaluation of Accounting Income Numbers. *Journal of Accounting Research* (Autumn), 159-178.
- Beatty, W.C. 1930. Review of J.B. Canning. *American Economic Review* 20 (March), 112.
- Canning, J.B. 1929a. Some divergences of accounting theory from economic theory. *The Accounting Review* 4 (1), 1-8.
- Canning, J.B. 1929b/1978. *The Economics of Accountancy*, Ronald Press, New York. Reprinted 1978. Arno Press, New York.
- Canning, J.B. 1931. Cost of production and market price. *The Accounting Review* 6 (3), 161-164.
- Canning, J.B. 1933. A Certain Erratic Tendency in Accountants' Income Procedure. *Econometrica* 1 (1), 52-62.
- Canning, J.B. 1934. The Securities Act of 1933 in J.B. Canning (ed.) *Papers and Proceedings of the Twelfth Annual Conference of the Pacific Coast Economic Association at the University of Washington, Seattle, Washington, December 1933*. Edwards Brothers, Ann Arbor, MI. 45-9.
- Chambers, R.J. 1965/69. Measurement in Accounting. *Journal of Accounting Research* 3 (1), 32-62. Reprinted in R. J. Chambers. 1969. *Accounting, Finance and Management*, Butterworths, Sydney, 554-582.
- Chambers, R.J. 1971. Income and Capital: Fisher's Legacy. *Journal of Accounting Research* 9 (Spring), 137-149.
- Chambers, R.J. 1979. Canning's *The Economics of Accountancy* - After 50 Years. *The Accounting Review* 54 (4), 764-775.
- Company Law Committee (Jenkins Committee). 1962. *Report of the Company Law Committee*, Cmnd. 1749, HMSO, London.
- Devine, C.T. 1985. *Essays in Accounting Theory Volumes 1-5*. Studies in Accounting Research (SAR) No.22, AAA.
- Edwards, J.R. 1989. *A History of Financial Accounting*, Routledge, London.
- Financial Accounting Standards Board (FASB). 1985. *Statement of Financial Accounting*

Concepts No.6, Financial Accounting Standards Board, Stanford, CT.

FASB/IASB. 2007. Conceptual Framework – Joint Project: Project Update. 25 May 2007.

Fisher, I. 1906/1965. The Nature of Capital and Income, Reprints of Economic Classics, Augustus M. Kelley, New York.

Fisher, I. 1924. “Communication: Comment on President Plehn’s Address. American Economic Review 14 (1), 64-8.

Fisher, I. 1930a/1965. The Theory of Interest, Reprints of Economic Classics, Augustus M. Kelley, New York. (Chapter 1 Income and Capital, reprinted in R.H. Parker and G.C. Harcourt. (eds.) 1969. Readings in the Concept & Measurement of Income, Cambridge at the University Press, 3-35.)

Fisher, I. 1930b/1986. The economics of accountancy. The American Economic Review 20. Reprinted as Chapter 2 in Parker, R.H., G.C. Harcourt and G. Whittington. (eds.) 1986. Readings in the Concept and Measurement of Income, 2nd edn. Philip Allan, Oxford, 66-81.

Fisher, I.N. 1956. My Father Irving Fisher, A Reflection Book, Comet Press Books, New York.

Galbraith, J.K. 1979. The Great Crash 1929, 50<sup>th</sup> Anniversary Edition, Houghton Mifflin, Boston.

Gibson, K. 1993. John Bennett Canning: A Sixty Year Perspective - a Jubilee Review of The Economics of Accountancy. Accounting History 5 (2), 39-46.

Hicks, J.R. 1946. Value and Capital, 2nd edn. Clarendon Press, Oxford.

Institute of Chartered Accountants in England and Wales. Recommendations on Accounting Principles. 1952. Rising Price levels in relation to Accounts, N15.

International Accounting Standards Board. 2008. Conceptual Framework. Joint Project of IASB and FASB, referred to as the CF Joint Project (2008).

International Accounting Standards Board. 2008. Discussion Paper - Preliminary Views on Revenue Recognition in Contracts with Customers. Joint Project of IASB and FASB. Referred to as: Joint DP on Revenue Recognition (2008).

Kaldor, N. 1955/1969. The concept of income in economic theory. Reprinted from An Expenditure Tax, Allen and Unwin, London, as Chapter 11 in R.H. Parker and G.C. Harcourt. (eds.) 1969. Readings in the Concept & Measurement of Income, Cambridge at the University Press, 127-131.

Kerr, J. St. G. 1989. The Concept of Equity in Financial Statements, Accounting Theory Monograph No.9, Australian Accounting Research Foundation (AARF), Melbourne.

- Lee, T.A. 1975. The Contribution of Fisher to Enterprise Income Theory: A Comment. *Journal of Business Finance and Accounting* 2 (3), 373-376.
- Littleton, A.C. 1933. *Accounting Evolution to 1900*, Reissued 1966, Russell and Russell, New York.
- McLean, B. and Elkind, P. 2003. *The Smartest Guys in the Room The amazing rise and scandalous fall of Enron*, Portfolio.
- Meriam, R.S. 1931. Review of: *The Economics of Accountancy* by John B. Canning. *The Accounting Review* 6 (3), 42-43.
- Mouck, T. 1995. Irving Fisher and Merchanistic Character of Twentieth Century Accounting Thought. *The Accounting Historians Journal* 22 (2), 43-83.
- Nelson, E.G. 1935. That Balance Sheet Approach. *The Accounting Review* 10 (4), 313-17.
- Nelson, E.G. 1942. The Relation Between the Balance Sheet and the Profit and Loss Statement. *The Accounting Review* 17 (2), 132-141.
- Parker, R.H. and Harcourt, G.C. (eds.). 1969. *Readings in the Concept & Measurement of Income*, Cambridge at the University Press.
- Paton, W.A. and Littleton, A.C. 1940. *An Introduction to Corporate Accounting Standards*. American Accounting Association Monograph No.3.
- Previts, G.J. and Merino, B.D. 1979. *History of Accountancy in America : a historical interpretation of the cultural significance of accounting*, Wiley, New York.
- Previts, G.J. and Merino, B.D. 1998. *A History of Accountancy in the United States*, Ohio State University Press, Columbus.
- Samuelson, R.A. 1996. "The Concept of Assets in Accounting Theory". *Accounting Horizons* September. 147-157.
- Schumpeter, J.A. 1954. *History of Economic Analysis*. Edited from manuscript by E.B.Schumpeter. London: George Allen and Unwin Ltd.
- Scott, DR. 1925/1976. *Theory of Accounts, Volume 1*, Henry Holt, New York. Reprinted by Arno Press.
- Scott, DR. 1931/1973. *The Cultural Significance of Accounts*, Henry Holt, New York. Reprinted by the Scholars Book Co.
- Smith, W.R. 1974. John Bennett Canning. *The Accounting Historian*, July.
- Sprague, C.E. 1907/1972. *The Philosophy of Accounts*, Reprint edition 1972, Scholars Book

Co, Lawrence, Kansas.

Taggart, H.F. 1964. (ed.) Paton on Accounting, University of Michigan.

Taylor, P.J. 1975. The Nature and Determination of Income: Some Further Comments. *Journal of Business Finance and Accounting* 2 (2), 233-237.

Vangermeersch, R.G. 1999. Review of G.P. Previts and B.D. Merino, *A History of Accounting in the U.S.: The Cultural Significance of Accounting*, 2<sup>nd</sup> ed. *The Accounting Historians Journal* 26 (1), 172-174.

Whittington, G. 1980. Pioneers of Income Measurement and Price-Level Accounting: a Review Article. *Accounting and Business Research* 38 (Spring), 232-241.

Williams, S.J. 2003. Assets in Accounting: Reality Lost. *Accounting Historians Journal* 30 (2), 133-174.

Zeff, S.A. 2000. John B. Canning: A View of His Academic Career. *ABACUS* 36 (1), 4-39.