Normative Accounting Theories

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Abstract This paper reviews five important works on normative accounting theory – MacNeal (1939), Paton and Littleton (1940), Littleton (1953), Chambers (1966), and Ijiri (1975) – with emphasis on recognition and measurement issues in accounting. It shows that there is a lack of agreement among these theorists on basic assumptions and hypothesized information needs of the users. Even where there is agreement on an assumption, different implications have been drawn therefrom by the concerned theorists. These differences lead to different recognition and measurement proposals. This paper also shows that many of the ideas in accounting that seemed to be novel were anticipated by these early theorists. Finally, it assesses the present accounting practice in the light of these theories.

Keywords**:** Normative accounting theory, accounting recognition and measurement.

Introduction

This paper examines select normative accounting theories. Starting with the twentieth century,[1] normative accounting theorists had been preoccupied with developing/constructing accounting principles. The primary concern had been recognition and measurement issues. Hence the focus of this paper shall be on these theorists' proposals on accounting recognition and measurement and the arguments/theoretical structures behind these proposals. It also compares the works reviewed.

There are controversies among accounting academics regarding what an accounting theory is. Watts and Zimmerman (1986: 2) posit that accounting theory seeks to explain and predict accounting practice.[2] Positivists like Watts and Zimmerman (hereinafter W & Z only) cite

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[1] The debate about accounting principles did not start seriously before the twentieth century (MacNeal 1939: 69). Accounting practice was primarily concerned with the development of bookkeeping techniques up to the beginning of the twentieth century. Early bookkeeping books seem to have been concerned with the methods of making bookkeeping entries. In fact, the early books did not mention even such basic issues as the use and calculation of depreciation.

[2] They label their theory as 'Positive Accounting Theory.' They borrow the phrase 'positive theory' from economics. Friedman (1953) popularized this phrase. What Watts and Zimmerman do actually is propagate a specific version of accounting theory. Methodologically they subscribe to the Kuhnian (1970) view of science. It is, however, to be noted that most of the research in economics, from which Watts and Zimmerman (1986) borrow their term positive, has normative consequences. When economists analyze a social phenomenon, their analysis contain in it normative implications. For example, information economics deals with the implications of information asymmetry and contains the suggestion that mechanisms should be devised so that the problem of information asymmetry can be mitigated. Agency theory highlights the agency problem arising from the separation of ownership from control in large corporations and suggests that corporate governance mechanisms should be designed and implemented to mitigate the agency problem. The same can be said of Adam Smith's the Wealth of Nations. The Wealth of Nations did not merely explain a capitalistic economy. In fact the English economy was hardly capitalistic in today's terms when Smith wrote the book. The Nation propagated the notion and benefits of a capitalistic economy. The book was written and used as an intellectual weapon by the bourgeois against the monarchy (Ashton 1968). Positive accounting theorists have studied the incentives of earnings management and have identified situations when earnings management may be present. But they hardly suggest a remedy to this problem. Sterling (1990) has rightly attacked this position of the positivists. This note, however, should not be taken as an attempt to belittle the achievements of positive accounting research. It has yielded many interesting and useful insights into financial

economics and natural science disciplines such as physics, chemistry, etc. in the defense of their method and call their method 'the scientific method' (W & Z 1986: 2), thus probably implying that there is only one method in science. This is highly disputed by accounting academics pursuing other strands of research (Christensen 1983; Chua 1986). Science is not a unified structure. There is no a unique scientific method. Science knows many methods (Feyerabend 1993). Hence, even if one wishes to study accounting as a scientific discipline, there is more than the method advocated by W & Z (1986).[3] One major criticism of W & Z's view of accounting theory is that it unnecessarily narrows the area of accounting research (Chua 1986; Whittington 1987). For our purpose, we adopt the following definition of accounting theory: "--- the business of accounting theory is to examine beliefs and customs critically, to clarify and extend the best from experience, and to direct attention to the genesis and outcome of accounting work" (Littleton 1953: 132). This definition accommodates different strands of accounting research such as research in normative accounting and empirical accounting as well as research in interpretative accounting.

A normative accounting theory seeks to prescribe some basis of accounting measurement, particular accounting procedures, and the contents of financial reports (Ijiri 1975; W & Z 1986).[4] Ijiri views normative theories as a special case of deductive theories. Deductive theories that start with some goal assumptions and deduce accounting procedures therefrom are labeled normative theories.[5] Thus, there are two important elements of a normative theory: (a) goal assumption, and (b) deduction. A theorist may set his own goals that are not inherent to current accounting practice. Chambers (1966) falls in this group. Again, a theorist may inductively derive goals from accounting practice and use those goals to suggest improvements in current practice. Ijiri falls into this group. Such theories are also categorized as normative in this paper. It is to be noted that not every theorist is explicit on goal statement. Some state the basic assumptions and deduce accounting measurement from these. Paton and Littleton (1940) fall in this group.

So far three approaches have been employed in normative accounting research. These are (a) inductive model, (b) deductive model, and (c) the decision usefulness approach. In induction, a general statement (X) is induced from some empirical observations, hypothetical phenomena, or non-empirical concepts (O). The implications of X include and go beyond O. It may be noted that many Xs may be induced from O. The contribution of an inductive model is in coming up with an X as an explanation of O. On the other hand, the opposite process is followed in deductive models. Here O is deduced from X. X is a set of theories, or assumptions that have already been accepted. In a deductive model, O is a special case of X. In the decision-usefulness, decision model approach, 'information relevant to a decision model or criterion is

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accounting and reporting issues. The point this note intends to make is that normative accounting research has, and should have, a rightful place in accounting theory and research.

[3] Accounting also knows many methods. Positive accounting theory uses one of these methods. See Hopwood and Miller (1994) for a sample of studies using methodological assumptions/world views different from those used in positive accounting research. See Sawabe and Yamaji (1999) for a useful discussion of various approaches employed in the research of accounting. Specifically, they discuss various research approaches falling under the broader umbrella of institutional accounting research.

[4] Watts and Zimmerman do not use the phrase 'normative accounting theory'. Rather they (p.7) use the phrase 'normative propositions.'

[5] Ijiri differentiates between normative theories and policies. In normative theory, the researcher does not commit himself/herself to the goal assumed. In accounting policy, however, the researcher is committed to the goal. Normative theories can thus be scientifically verified, while policies are based on value judgement of the researcher. As Ijiri recognizes, this distinction is blurred in accounting. Accounting theories and policies are often intermingled.

isolated and various accounting alternatives are compared to the data presumably necessary for implementing these decision models' (AAA 1977: 10).

Inductivists such as Hatfield (1927), Littleton (1953), Ijiri (1975), etc. examine extant accounting practice and have tried to rationalize and, sometimes, justify major elements of extant accounting practice. Among the inductivists, Ijiri (1975) is very explicit in his adoption of the inductive approach to accounting theory. He expresses his preference for inductive models over deductive models in the following words:

> This type of inductive reasoning to derive goals implicit in the behavior of an existing system is not intended to be pro-establishment or to promote the maintenance of the status quo. The purpose of such an exercise is to highlight where changes are most needed and where they are feasible. Changes suggested as a result of such as a study have a much better chance of being actually implemented. Goal assumptions in normative models or goals advocated in policy discussions are often stated purely on the basis of one's conviction and preference, rather than on the basis of inductive study of the existing system. This may perhaps be the most crucial reason why so many normative models or policy proposals are not implemented in the real world. (Ijiri 1975: 28).

On the other hand, deductivists such as Paton (1922), Canning (1929), Sweeney (1936), MacNeal (1939), Chambers (1966), etc. develop accounting models of global application (AAA 1977). They are basically reformers and suggest new bases of accounting measurement. Many of these deductive writers advocate current costs or values. They drew on neoclassical economic theory[6] and on their observations of economic behavior to suggest that accounting should report current costs instead of historical costs. (AAA 1977). These deductivists do not investigate the decision frameworks of specific classes of users. Instead they assume the income figure generated by their model would be equally useful to all types of users.[7] That is why their model is called 'true income' model. (AAA 1977). In contrast, as noted earlier, the decision model approach recognizes that different decisions may require different information. This approach has received varying degrees of emphasis in the accounting literature since the 1950s.[8] It has been used in A Statement of Basic Accounting Theory (ASOBAT) issued by American Accounting Association (AAA). The conceptual framework for financial reporting issued by the Financial Accounting Standards Board (FASB) is also an example of the decision model approach.

This paper reviews five important works within the tradition of inductive–deductive models. These are:

> MacNeal, Kenneth. 1939 (Reprinted in 1970). *Truth in Accounting*.
> Paton, W. A. and A. C. Littleton. 1940. *An Introduction to Corporate Accounting Standards.*
> Littleton, A. C., 1953. *Structure of Accounting Theory*.
> Chambers, R. J. 1966. *Accounting, Evaluation and Economics Behavior.*
> Ijiri, Yuji. 1975. *Theory of Accounting Measurement.*

Though we have mentioned inductive models and deductive models separately, it should be noted that it is very difficult to classify a work as being inductive or deductive only. Some works have used both models simultaneously. Ijiri's (1975) work illustrates this. He induced

[6] Many of the accounting academics (e.g., Hatfield and Paton) had doctorates in economics. Some of the most prominent writers, such as Canning and Alexander, were economists (AAA 1977: 6). It is hardly surprising that teachings of neo-classical economics would inform their accounting theories.

[7] Alexander (1950) is the exception.

[8] See AAA (1977: 10-12) for a brief survey of accounting works employing this approach.

the goal underlying current accounting practice and argues in a normative vein that this goal should be retained. Using deductive logic, he then recommends particular basis of measurement.

MacNeal (1939)

MacNeal (1939) is a revolutionary. His work contains a vehement attack against the present accounting practice. He thinks that the function of accounting is to report economic truth. But financial statements, he argues, do not present truth.[9] They are misleading to the investors and creditors. In particular, he says that the historical cost principle and the conservatism convention prevent financial statements from presenting true financial position and the operating results of the firm.[10]

He links the development of accounting principles to the business and economic conditions obtaining in medieval Europe and by reconstruction, he shows that accounting principles were the natural outgrowth of the then conditions which have ceased to exist now. But accounting principles have not kept pace with the changed conditions.

MacNeal evaluates three justifications offered in favor of the cost principles. First, cost represents the value of a fixed asset to a going concern, called 'the going value' theory. Second, it is impractical and expensive to revalue assets every year. Third, even if revaluations of fixed assets were done every year that would not provide significant information to the users.

The 'going value' theory states that cost represents the value of service of an asset to the owner at the time of the purchase. Since the service potential of the asset can not change unless there is any change in its physical condition, the value of the asset to the owner can not change after the purchase. Hence, fixed assets should be shown at costs in the balance sheet even after the purchase. Since fixed assets are purchased not for sale, but for productive use in the business, market prices are not relevant for the valuation of the asset. MacNeal disagrees with this position. To him, value means economic value that is determined by the interaction of demand and supply in a free and competitive market. Cost represents the economic value at the time of purchase only if it is determined by demand and supply in a free and competitive market that is sufficiently broad and active. Otherwise costs can not be economic values even at the time of purchase. After the purchase, if the relative forces of demand and supply change, the economic value would also change. MacNeal further argues that the 'going value' theory was appropriate when there was a permanent owner-manager and ventures had limited lives so that the owner-manager was interested only in knowing the cost to date of the venture. Now there are numerous individuals who hold shares in modern corporations and are ignorant of the state of affairs of the firm and must rely on the information communicated by management. Furthermore, ownership of corporate firms changes frequently. Since each share involves a claim against the assets, the equitable ownership also changes with changes in shareholders. It is important to ensure equity and fairness to the changing shareholders. The present practice of not reporting unrealized market prices prevents shareholders from the assessing the true value

[9] This is a philosophically unsupportable position. Truth has been defined as correspondence with facts (Popper 1979: 44). If this definition is adopted and if fact or reality is something independent of the theoretical system, then historical costs, replacement costs, and selling price (realizable value) are all truths, since they correspond to different facts. Hence, truth alone can hardly be a criterion of choice of the basis of measurement in accounting. However, as Hines (1988) argues, accounting reports not only reality, it also creates reality.

[10] Price economics, especially the theories of demand and supply, informs MacNeal's analysis of the present accounting principles and his recommendations on asset valuation. MacNeal tells us that 'the vital defect in present accounting practice is its disharmony with the simpler principles of *economics* and logic, commonly called common sense' (MacNeal 1939: xi, italics added). Thus, he undertakes to 'bring every accounting rule into line with the proven principles of *economics* and logic' (MacNeal 1939: vii, italics added).

of their shareholding and is, thus, an obstacle to ensuring equity. Hence, the 'going value' theory is inappropriate and does injustice to the changing stockholders.

MacNeal argues that if fixed assets are revalued at year-end, it becomes a matter of routine later. Hence, the question of impracticality and expense does not stand in the way of reporting present economic values. He further claims that present economic values are useful to investors and creditors in investment and credit decisions.

The argument in favor of the conservatism convention is that it ensures that the earnings and net worth of the firm are at least as good as that represented in the financial statements. MacNeal argues that this assurance was important for creditors who supplied the funds and rested their credit decisions on the status of current assets. The conservatism convention provided a safety margin for these creditors in times of financial distress of the firm. Now trade credit constitutes a very small portion of the total funds obtained by the firm. Toady the most important party at interest is the small, uninformed securityholder. Thus the conservatism convention has lost its relevance today.

MacNeal employs a deductive model. He claims that managers, creditors and stockholders want to know the present net worth of the entity. Creditors need this information because this helps them assess the probability of being repaid. Stockholders need this information because this helps them compare the possessions of their company with those of other companies whose stock they may intend to buy. Managers, creditors and stockholders are also interested in having information regarding all of the profits/losses made by the entity. Financial statements can serve these information needs well if they report present economic values. By economic values, he means market prices (i.e., exit price) established through the free play of demand and supply in a market that is free and competitive, and sufficiently broad and active. Where free, competitive, and sufficiently broad and active market does not exist (e.g., in the case of work in progress, most finished goods, specialized building and equipment, etc.), present economic values should be estimated by the present replacement costs of the particular asset.[11] Historical cost should be used only in the case of nonmarketable and nonreproducible assets (e.g., intangibles, mineral deposits, etc.). For MacNeal, it is an irony that the resulting total asset figure in the balance sheet would not make any meaningful sense since the total asset figure would be a curious mixture of market prices, replacement costs, and historical costs.

MacNeal suggests that depreciation be calculated on the present economic value of assets, rather than on their historical costs. He defines depreciation as the loss in value of assets due to physical wear and tear. But in the illustrations[12] what he actually does is allocate the present economic value of assets in a systematic value. Here we see some inconsistencies between his theory of depreciation and illustrations. For if depreciation is defined as the loss in value due to physical wear and tear, it could, and should, be measured by direct reference to the market price of used asset if such price is available. It is to be noted that in that case appreciation might have to be recorded instead of depreciation. This is because the market price of used assets might exceed the original cost of the asset.

It is also to be noted that MacNeal does not allocate the market price of an asset fully as depreciation expense over its life. Changes in market prices of assets are decomposed into depreciation expense, capital profits and capital losses. The sum of depreciation expense, capital profits and capital losses over the whole life of an asset equal its historical cost.

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[11] MacNeal thus requires the accountant to be a valuer or employ a valuer to help prepare truthful financial statements. The long-established English view is, however, that the public accountant is not a valuer.

[12] In the section on depreciation in Chapter XII, MacNeal gives four depreciation tables in which he illustrates how to calculate periodic depreciation.

Liabilities should be shown at amounts representing their legal claims on the assets of the entity. Money value liabilities[13] should be shown at their face values. Bond discount and premium are not amortized, rather they are treated as capital loss and profits, respectively. Real value liabilities are to be shown at their present economic values at the balance sheet date.

MacNeal justifies the reporting of money value liabilities at their face amounts on the ground that face amounts of liabilities are the amounts that will have to be paid.

> If an issuer defaults in the payment of interest, his bonds may be declared immediately payable at their face amounts, and no attention will be paid to the discounts at which they may originally have been sold. If the issuer retires his bonds before maturity, he must pay their face amounts plus the premium specified in the trust deed, regardless of whether the bonds were originally sold at a discount. (MacNeal 1939: 282)

The above logic does not go with the going concern assumption. It is true that the face amount will have to be paid if the liabilities are to be paid any time before maturity. But the going concern assumption that MacNeal uses implies that the entity will continue without any material curtailment in operation in the foreseeable future. Thus, the assumption is that the liabilities will not have to be paid at the balance sheet date (Paton and Littleton 1940).

MacNeal offers another argument in favor of treating bond discount and premium as capital loss and profit, respectively. Amortizing discounts and premiums conceals the amount of periodic cash interest payments. Continuity of an entity depends sometimes on its ability to pay interest and, thus, reporting cash interest is important to the users of financial statements. He is right, albeit partially. The importance of reporting cash interest payments does not preclude showing theoretical interest[14] in the income statement as break-up of theoretical interest can be shown in notes to financial statements. MacNeal uses the term 'theoretical interest' in a somewhat derogatory sense, implying that it has no usefulness whatsoever. But it can not be denied that discounts and premiums increase and decrease the effective interest of bond issue.

And the income statement would include both realized and unrealized current and capital profits and losses. MacNeal suggests a form of income statement in which there are two major sections. One section reports current profits, i.e., profits from business operation and the second section reports capital profits or losses.[15] Current profits or losses are to be closed to earned surplus and capital profits are to be closed to capital surplus.[16] The total of profits reported in two sections would be the total net profit from all sources.

Income statement designed as above would report all profits from whatever sources they may come. This would rectify the present practice of income determination. Income as presently reported is a curious mixture of realized profit and some unrealized profit and loss. This state of

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[13] Money value liabilities represent claims for definite sums of money. Bonds payable is an example. On the other hand, real value liabilities represent obligations to deliver goods or services regardless of what the costs of performance may be.

[14] MacNeal uses the term 'theoretical interest'. Now the phrase 'effective interest' is used to denote the same thing. It is the sum of periodic interest plus discount amortized minus premium amortized.

[15] Capital profits and losses arise from changes in economic value of fixed assets, exclusive of depreciation, amortization, or depletion. Both realized and unrealized value changes are to be included in capital profits and losses. It is to be noted that changes in the value of marketable securities are also to be included in capital profits and losses, unless the entity is in the security trading business.

[16] It is to be noted that MacNeal criticizes the practice of distinguishing capital surplus from earned surplus. He argues that capital surplus is also earned. He, however, retains the distinction because of the force of custom.

income determination was responsible for the legal confusion and contradiction that existed during MacNeal's time regarding what profit was. Attribution of the failure of the court to comprehend what accounting profit is to the accounting practice of income determination misses the important point that accounting and all of its products are social reality that must be understood in their own terms. This is because is accounting profit is self-referential. Hence to understand what accounting profit is, one must understand the accounting process of income determination.[17]

Similarly, MacNeal's assertion that financial statements should report economic truth overlooks the important point that accounting reports not only economic reality, it also creates new economic reality (Hines 1988). True profit is a figure that we do not know. We know only what is reported. And the reported profit is a reality that is the creation of accounting.

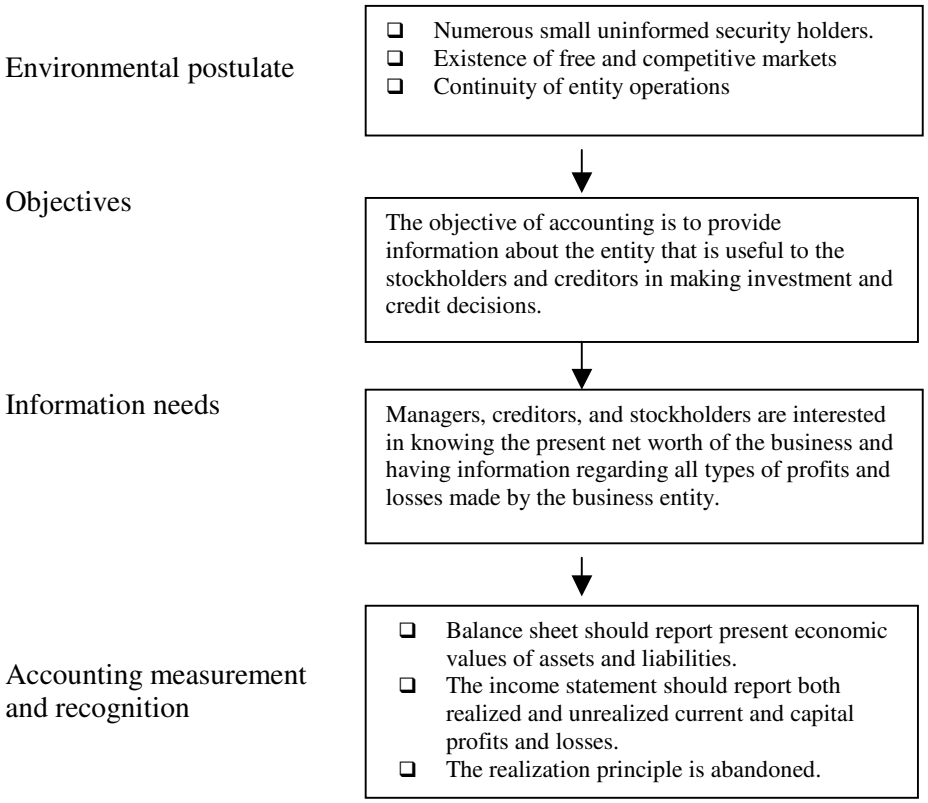

Figure 1: Structure of MacNeal's (1939) theory

Financial statements drawn along the above lines would yield certain benefits to the users of accounting information. First, a prospective mortgagee can decide whether to lend money on a particular asset. An existing mortgagee can evaluate the safety of the loan. Second, a

[17] An analogy may make the point made here clear. If a foreign researcher wants to understand Bangladeshi culture by reference to his own culture, his understanding of Bangladeshi culture would not be complete. There are many elements of Bangladeshi culture that may have no referents in the culture of the resaercher. Furthermore, viewed from the perspective of his culture, some elements of Bangladeshi culture may appear strange. Thus, a complete understanding of Bangladeshi culture would require that it be understood in Bangladeshi terms. Similarly, there are many elements of the accounting process of income determination that have no referents outside accounting. Examples would include allocation, matching, etc. See Searle (1995) for an interesting discussion of different issues relating to social reality.

comparison of current assets with current liabilities would reveal the correct current ratio and liquid asset ratio that would help the business entity obtain short-term bank credit consistent with the magnitudes of the ratios. Third, the balance sheet would make large secret reserves and watered stock[18] impossible. Fourth, the balance sheet would reveal the amount of present capital employed. Comparison of this amount with current earnings would reveal management efficient correctly. Fifth, readers of financial statements would be made aware of changes in asset values caused by booms and depression.

MacNeal criticized present accounting practice for creating scope for income management. It is an irony for MacNeal that his proposal would not reduce that scope. The conventional argument is that reporting market prices of assets in the balance sheet would create scope for distorting financial statements to serve managers' self-interest unless restraints are placed as to which market prices can be used for asset valuation. Calculating present replacement cost would require a lot of judgment. Reliability of financial statements would thus be hampered. MacNeal seems little concerned about this issue of reliability

It may be asked whether lenders rest lending decisions solely on asset values. It may further be asked whether borrowers usually repay their loans through liquidation of the asset(s) placed as security. The typical experience is that an entity rarely repays its debt by liquidating its fixed assets. Paton and Littleton (1940) and Littleton (1953) rightly assert that earning power, not asset values, affords the best security to the creditors. Earning power is most significant basis of enterprise value. It is true that business enterprises liquidate the assets to repay the loans in distress times. Until that time earning power is the most important thing.

It may further be asked whether disclosing market values of assets in financial statements passes the cost-benefit test when such values can easily be ascertained from market prices. This question is raised because the efficient market hypothesis (EMH) recognizes alternative sources of information about the business entity. Again, the semi-strong version of EMH states that share price quickly impounds all publicly available information. This implies that accounting should undertake to provide only those information in the provision of which it enjoys comparative advantage. Does the reporting of market values in financial statements pass this test?

Another problem with MacNeal's proposal is that it would make valid comparison of financial statement data over time difficult. If comparative information is not revised to reflect the present economic values as at the balance sheet date, valid comparison would be hampered.

Paton and Littleton (1940)

Paton and Littleton (hereinafter P & L) attempt to develop a statement of accounting standards[19] intended to serve as 'guideposts to the best in accounting practice' (P & L 1940: 6). Methodologically speaking, P & L is a deductive work in that they base their theory on six

[18] Watered stock means overstatement of owners' equity. This normally happens through overstatement of assets. The opposite is secret reserve.

[19] P & L's use of the word 'standards' differs from that used in phrases such as 'International Financial Reporting Standard (IFRS)', 'Statement of Financial Accounting Standard (SFAS)', etc. P & L use the word to denote 'fundamental conceptions and general approaches to the presentation of accounting facts' (p. 5). Standards in their framework are something akin to principles. Standards as used in IFRS and SFAS recommend/prescribe specific accounting rules and procedures. They thus limit the options available to management. P & L use the phrase 'standardized accounting' in the second sense. However, this distinction is blurred in P & L (1940) .

basic assumptions. But most of their recommendations conform to the existing accounting practice.[20]

The primary purpose of accounting is the periodic determination of income through a systematic matching of costs and revenues. Cost is the basis of recording assets, liabilities and equities and revenues are recorded at the point of sale. Thus the primary accounting report is income statement and the balance sheet is relegated to the secondary position.[21] The purpose of the balance sheet is to report unexpired costs, not asset values. By viewing assets as unexpired costs, P & L reject the idea of incorporating periodic revision of asset values into accounts. They also reject the conservatism convention. These are the views of P & L.

As mentioned already, all transactions should be recorded at cash costs or its equivalent, i.e., implied cash costs. In cash transactions, cost is measured by the immediate cash consideration. In credit transactions, cost is the amount that would be required for immediate settlement of the obligation. If non-cash consideration is involved in any transaction, the basis of measurement is the immediate cash equivalent (e.g., market price, fair value, etc.) of the consideration exchanged. When goods and/or services of unquestioned economic significance are acquired by the enterprise without cost[22], those goods/services should be recorded on the basis of implied cash cost.

Cost standards apply to equity as well as to assets. The amount of cash or its equivalent furnished, rather than the maturity value or par value, measures the initial liability or owner's equity.

Revenue is the product of the entity measured by the amount of new assets - usually cash or other liquid assets or both – acquired from customers. Revenue represents the accomplishments of the enterprise. Though revenue is earned by the entire process of business operation, it is realized by the conversion of the product into cash or other valid assets. In revenue recognition, usually realization rather than the earnings process is the determining factor. Sales is usual standard of revenue recognition though, in special situations, it may be recognized at points other than sale such as production and cash collection.

All costs incurred prudently and in good faith are essentially homogenous in the significance to the entity. They all contribute at least momentarily to the total of assets of the entity and are chargeable to revenue. Until matched against revenues, they are deferred costs. This implies that cost to be deferred need not necessarily be confined to costs that may be identified with specific elements of tangible assets. Service costs[23] properly incurred may be deferred also, provided reasonable means of associating these costs with revenues are available.

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[20]American Accounting Association (AAA) Committee on Concepts and Standards for External Financial Reports (1977) tells us that effort was made in this theoretical work to diffuse the then prevailing tension between the accounting academics and accounting professionals in the United States of America.

This work embodies the influence of two accounting writers having different viewpoints (Bedford and Ziegler, 1975). To Paton, cost was not important in its own right, rather it was important as a measure of value. He would have preferred the restatement of acquisition cost for price level changes before matching costs and revenues. To Littleton also, income determination was central to accounting. But cost was important in its own right as a measure of investments made. To Littleton, financial statements were never statements of values.

[21] It is important to note that P & L do not include any chapter on assets and liabilities in their monograph. This fact alone is a manifestation of their views on accounting. First, as mentioned earlier, they view the income statement as the primary accounting report. Hence, they concentrate on recognition and measurement of costs, revenues, and income. Second, assets are viewed as unexpired costs, awaiting their matching against revenues in future income statements.

[22] Property received through donation or gifts is an important example of acquisition without cost.

[23] Organization cost is an important example of such costs.

The revenues of a particular period should be charged with the costs reasonably associated with the product represented by such revenues. Though physical use or consumption often affords a satisfactory basis of assigning costs to revenues, this is not always the case. 'The essential test is reasonableness, in the light of all the pertinent conditions, rather than physical measurement' (p. 71). Though, in principle, all costs prudently incurred are assignable to revenues through matching procedure, the availability of reasonable means of associating costs with revenues affects which costs are deferred and which are not. For example, though costs of general administration and selling are as legitimate and significant as other classes of costs, such as costs of direct materials and direct labor, selling and administration costs are normally charged to revenues as incurred.

P & L erect the above theory on six basic assumptions/concepts. These are (a) the business entity, (b) continuity of activity, (c) measured consideration, (d) costs attach, (e) efforts and accomplishments, and (f) verifiable objective evidence.

The business entity concept says that the entity is separate and distinct from all the parties associated with the enterprise and business accounts and statements are those of the entity rather than those of the owner, creditor or any other group concerned. One major implication of this concept is that revenues and expenses should be defined in terms of changes in enterprise assets rather than changes in owner's equity.

The second assumption, i.e., continuity of activity, is that the business entity will continue in operation in the future. Though there are insolvency, some degree of continuity is our typical experience. 'Liquidation is not the normal expectation; continuity is' (P & L 1940: 9). And, P & L emphasize that construction of accounting standards must rest on normal conditions. The going concern assumption has two important implications. First, financial statements are provisional in character. Important figures[24] in the financial statements are subject to this assumption. Second, this assumption implies that 'earning power' is the most significant basis of enterprise value. The income statement is the most important accounting report. The going concern assumption also implies that all special and non-recurring losses and gains should be included in the income statement because these items modify the long-run income stream.

The activities of a business enterprise consist largely of exchange transactions with other parties. The function of accounting is to express these transactions in monetary terms. Thus, the basic subject matter of accounting is the 'measured consideration' involved in these transactions. Accounting undertakes to report the 'measured consideration', not value. The consideration/price aggregate involved in an exchange transaction may indicate the mutual valuation at the point of transaction. In this limited sense, accounting may be said to record values. After the moment of the transaction, values may change but the recorded price aggregate does not. Accounting does not record these changes in values unless the entity is a party to the new transaction.

The economic activity of a business enterprise consists in uniting materials, labor and various services to form new combinations having new utilities. Accounting keeps steps by classifying and reclassifying appropriate portions of materials cost, labor cost and overhead so that together they become product costs. Accounting assumes that acquisition costs are 'mobile' and may be apportioned or regrouped according to products and time intervals. It is as if costs 'had

[24] For example, discount on bonds payable is treated as valuation account. Instead of showing bonds payable at their face value in the balance sheet, they are shown at face value less unamortized discount. The logic of this treatment is derived from the going concern assumption. This assumption implies that the entity will not have to pay the bond before maturity. At maturity, according to this treatment, the carrying value of bonds payable will be equal to their face amount. If liquidation were the assumption/judgment, the bonds payable would have to be reported at their face amount in the balance sheet.

a power of cohesion, not because, as regrouped, they express values, but because they express parts of the total effort made to bring out a subsequent advantageous sale' (P & L 1940: 14).

The going concern assumption implies that the final outcome of the business activities of an enterprise will be known after liquidation. The interested parties would not wait till liquidation to know that outcome, however. They need 'test readings' of progress made at regular intervals. Accounting undertakes to provide these 'test readings' by the periodic matching of costs and revenues. Costs are considered as measuring efforts and revenues as measuring accomplishments.

Accounting matches efforts and accomplishments, rather than receipts and disbursements. It matches services acquired and services rendered. Concepts such as 'costs', 'revenues', 'accrual', and 'deferral' capture all these things. Matching does not end with current accruing and deferring. It necessitates the inclusion of windfall gains and non-operating losses in the process of calculating periodic income.

Accounting places emphasis on objective evidence to support recorded transactions. Authentic business documents such as sales invoice provide objective evidence regarding recorded revenue. This evidence affords the principal means through which recorded facts could be verified. Verifiable, objective evidence, thus, is an important element in accounting and a necessary adjunct to the proper execution of the accounting function of supplying dependable information.

Accounting facts are not conclusively objective or completely verifiable. This is especially true with respect to accounting treatments of recorded facts. Accounting treatments are the result of a host of accounting policies and managerial judgement. Thus, there are degrees of objectivity of evidence. The highest degree of objectivity is the best provided its attainment does not run counter to the long-run point of view of a going concern. For example, a completely objective determination of periodic depreciation must await the final retirement of the item of asset in question. But this should not deter charging appropriate amount of depreciation to the income statement on the basis of the best available evidence at the time of making the judgment.

Langer (1953; cited in Mautz and Sharaf 1961: 60-61) specifies four requirements of postulates. These are coherence, contributiveness, consistency and independence. Coherence says that the postulate must belong to the system. Contributiveness says that postulates must yield other useful inferences, while consistency requires that one postulate should not contradict other postulates of the system, or any proposition implied by such other postulates. Independence says that one postulate shall not be implied by other postulates of the system, singly or jointly. P & L's six basic assumptions meet all the requirements except one, i.e., independence. The assumption that the principal objective of accounting is determination of periodic income can be derived from the going concern postulate. Since the enterprise is not a terminable venture but is expected to continue in operation, what is important for entity continuity is its earning power, not the realizable value or replacement cost of the entity's assets. Thus the income statement is the primary accounting report and the balance sheet does not intend to report asset values. The concept of measured consideration may be said to be subordinate to the concept of objective, verifiable evidence. Price aggregates involved in transactions are objective and verifiable. But the measured consideration concept goes beyond the objectivity concept. Measures (e.g., price indexes developed by a governmental agency) other than price aggregates may be objective. But accounting does not intend to record those measures. What the measured consideration concept does is to restrict the domain of accounting. Price aggregates involved in transactions to which the entity is a party provide the basic data for accounting. Thus there is no place for periodic revision of assets costs in accounts.

Though P & L argue against incorporation of periodic revision of asset costs into accounts, they do not deny the importance of such data in special situations. In fact, at one stage of their arguments they concede to record periodic revisions into accounts in special situations.[25] Here they violate the concept of measured consideration. P & L, however, would normally like to have such data as supplementary information.

It is to be noted that the above proposals are premised on two environmental postulates. The first is that there is a separation between ownership and management. The second is that there are different groups of stakeholders such as management, owners, lenders, employees, etc. in the corporation. It is to be noted that MacNeal also appealed to the fact that there are absentee owners of a corporation. However, as we saw, P & L's proposals differ from those of MacNeal. This is due to differences in relative importance placed on relevance and reliability. MacNeal's proposals stem from the argument that present accounting practice does not meet the information needs of the investors and lenders. On the other hand, P & L's proposals sprang primarily from the necessity of providing reliable corporate information to the absentee owners and other stakeholders. Though P & L say that the purpose of accounting is to provide dependable and relevant information, the emphasis is clearly on the reliability criterion. This is evident from the fact that one important basic concept of P & L is verifiable, objective evidence and relevance is not a basic concept in P & L's framework. The relatively greater emphasis placed on reliability is also evident from the following excerpts.

> In particular cases there may be a strong urge to increase immediate profits in any possible manner, or at least to report increased profits if any way to do so can be found. Similarly the group in control may under some circumstances desire to minimize, in the statements, the reported earning power of the enterprise. (P & L 1940: 1)

It is precisely because of the need to provide unbiased information to the investors and other stakeholders that P & L feel that there is the need for accounting standards. Here we see similarity between P & L and Ijiri (1975) (Ijiri 1999). As we will see in a later section, Ijiri's major theme is accountability. And, he emphasizes the hardness[26] of accounting measures on the accountability ground. However, unlike Ijiri, P & L's derivation of the concept of verifiable, objective evidence is implicit. We will see that Ijiri explicitly derives the concept of hardness from the notion of accountability.

P & L (1940) is an excellent piece of work. They are consistent in their recommendations. In recommending accounting standards, they follow the basic assumptions even if the recommendations contradict present practice. For example, present accounting practice embodies the effects of both the proprietary view and the entity view of accounting. While we prepare accounting statements for an accounting entity (the entity view), the income statement reports net income, which is available to the stockholders, which in turn a reflection of the proprietary view. P & L adopt the entity view. This view suggests that all providers of funds be treated at par. Hence, they suggest that interest on borrowed funds be shown as a charge against income instead of revenue charge. In other words, in P & L's framework interest is something akin to dividend paid.

[25] P & L, however, argue for the preservation of historical cost of plant assets and the accumulated depreciation based on cost. Periodic revisions should not obscure historical costs.
[26] The concept of hardness is explained in the section on Ijiri (1975).

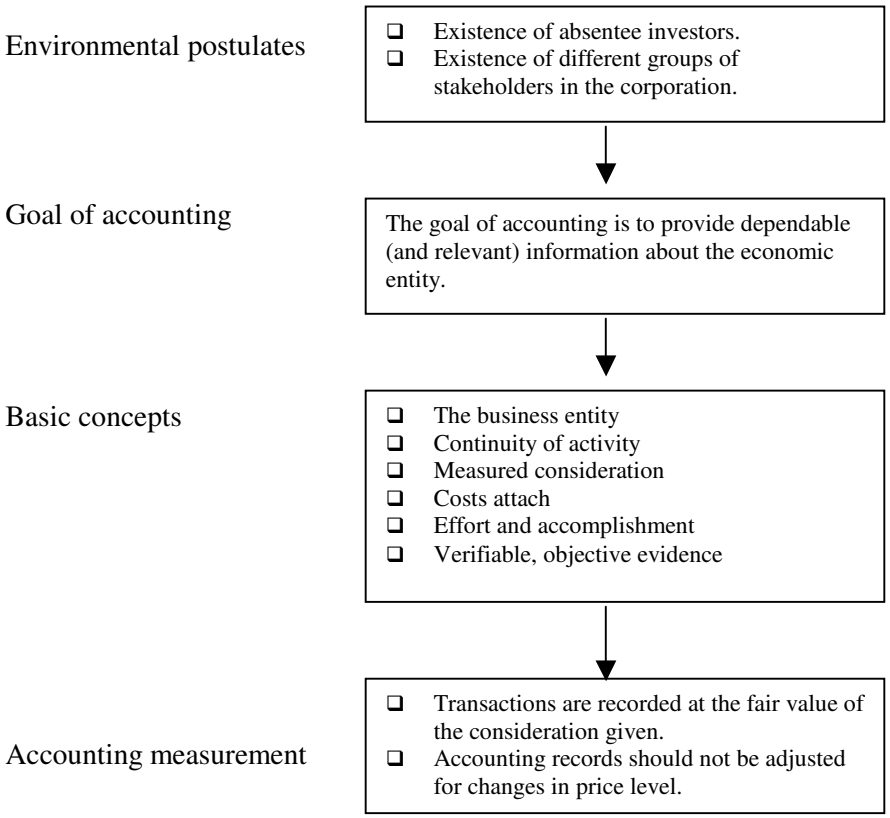

Figure 2: P & L's (1940) theoretical structure

Littleton (1953)

This works differs from the earlier monograph of P & L (1940) in that it mainly employs the inductive method.[27] Its scope is also broader than the earlier monograph and it addresses some philosophical issues such as the nature of accounting theory,[28] the relation between accounting theory and practice, etc. It examines the nature of accounting and attempts to derive accounting principles inductively. In his scheme, five basic assumptions[29] are used. First, business enterprises exist to render economic service (i.e., supplying goods and creating employment) to the people. Second, a business enterprise is a cohesive economic entity. Third, business activities follow a cyclic pattern. It means that "in the functioning of a business enterprise there is rhythm of seasons and activities, a cycle of events---" (Littleton 1953: 25). Fourth, the most important data to all parties sharing in the proceeds of the enterprise or involved in controlling enterprise operations are those facts that speak of enterprise efforts and accomplishments during a period. Fifth, the enterprise is a going concern.

[27] This is a simplistic characterization of the nature of Littleton's (1953) work. He uses deductive logic also. For example, he derives the central purpose of accounting from four enterprise principles.

[28] Bedford and Ziegler (1975) note that one major contribution of Littleton lies in the development of the use of inductive method in accounting research.

[29] The first four assumptions are called enterprise principles in Littleton. They are the principle of enterprise service, the principle of enterprise entity, the principle of enterprise periodicity and the principle of enterprise effort and accomplishment.

These assumptions underlie the derivation of the central purpose of accounting and the desired attribute to be measured in accounting. The central purpose is the organizing theme in Littletone's scheme. "A central purpose [of accounting], from its very nature, should be the controlling factor in the ordering of accounting procedures" (Littleton 1953: 30). And to Littleton, this central purpose is the determination of periodic income through matching of costs and revenue.[30]

> The central purpose of accounting is to make possible the periodic matching of costs (efforts) and revenue (accomplishments). This concept is the nucleus of accounting, and a benchmark that affords a fixed point of reference for accounting discussion. (Littleton 1953: 30)

Thus, the income statement is the financial statement of primary importance and the balance sheet is relegated to a position of secondary importance. The income statement reports on the efforts and accomplishments of the reporting enterprise during the period.

In so far as the business entity exists to supply goods/services and create employment and in so far as the entity is a going concern, parties associated with the enterprise would be interested in knowing the degree of progress achieved, not the solvency of the entity at a particular point of time. In other words, they would need data relating to enterprise efforts and accomplishments. The financial statement that comes closer to satisfying these information needs is the income statement. Costs and revenues reported in this statement reflect efforts and accomplishments respectively. On the other hand, the balance sheet in the double entry system is not designed to portray values as at the balance sheet date. In Littleton's scheme, assets are unexpired costs. They are awaiting their destiny in future income statements.

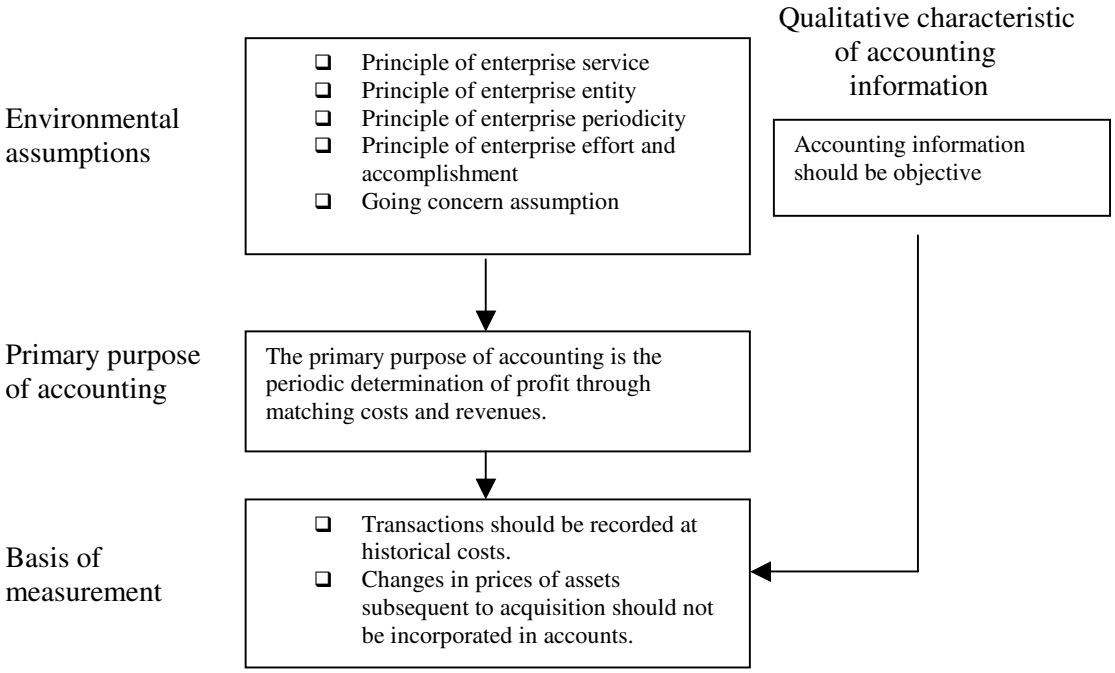

Figure 3: Littleton's (1953) scheme

[30] Littleton evaluates the historical evidence on the development of the double entry bookkeeping system and concludes that income determination through matching costs and revenues has always been the central feature of the system.

Littleton argues that even if property values were reported in the balance sheet, that would not be relevant in most of the time. Property values would be relevant at the time of liquidation. As long as the enterprise is a going concern, earning power, not solvency, affords the greatest amount of protection to the long-term lenders.

Littleton builds his analysis on this central purpose. He identifies six sub-areas of accounting surrounding the central purpose. These are: (a) accounts: categories of classification, (b) transactions: raw data to be analyzed into categories, (c) booking: use of mechanisms for handling data and classifications, (d) apportionment: methodology for reclassification of initially classified data among comparable time segments, (e) financial statements: means of communicating information about the reporting enterprise to interested parties, and (f) auditing: a critical professional examination of the classification system and the resulting financial statements. There are interrelations among these sub-areas. The interrelation that Littleton views as the most distinguishing feature of double entry bookkeeping system is that between real and nominal accounts and the consequent interrelation between the income statement and the balance sheet

Littleton rejects the incorporation of changing price levels into the accounts of the reporting entity. The rationale provided is that only those transactions in which the reporting entity is a party are relevant to accounting and all other transactions are irrelevant for accounting purpose. Being determined by the bargaining of two independent parties of which the reporting entity is one, historical costs are objective.[31] He also argues that incorporation of fluctuation in price levels into the accounts would introduce 'irrelevant and confusing modifications in the objective measurement of enterprise efforts and accomplishments' (p.198) and would destroy the conceptual cohesion so characteristic of the accounting system. The integration between real and nominal accounts may not be possible and accounting would be rendered into a merely statistical device. Furthermore, separation of income attributed to management's efficiency from that attributed to price rise, which price level accounting attempts to achieve, would not be 'thorough or dependable because the interplay of cause and effect can not be separately traced with confidence' (p.225). More importantly, management decisions may be responsible for some of the profits attributed to price rise. This would make the rationale of making the above separation questionable.

Littleton would thus reject the lower of cots or market rule for inventory and the idea of basing depreciation on the appraised value of depreciable assets. These are deviation from the historical cost basis of accounting. However, he concedes that price level data are useful in decision-making and suggests that these data may be disclosed in supplementary schedules. He further argues that increase in interpretative skills of the analyst would solve the problem emanating from the inherent limitations of accounting.

Chambers (1966)

The central theme in Chamber's system of ideas is adaptation. The assumption is that an entity wants to adapt to the prevailing market condition by engaging in exchanges. It would, therefore, want to know its stock of severable means expressed in contemporary monetary unit, because the amount obtainable from selling the assets determines and limits the entity's scope of action in the market. The function of accounting is to supply contemporary financial information that can act as a guide to future action.[32] He writes as follows:

[31] This opens the door for other objective measures such as price level indexes which are calculated by some agency other than the entity. Littleton, however, rejects such other measures on other grounds.

[32] It is to be noted that Chambers stipulates six characteristics of accounting information. These are objectivity, correspondence, relevance, neutrality, uniformity and reliability. Of these, relevance is of paramount importance in

> "---accounting information shall be relevant to *adaptive behavior* under uncertainty and environmental variability" (Chambers 1966: 342, italics added).

And, in another place, he writes:

> "But at any *present* time all past prices are simply a matter of history. Only present prices have any bearing on the choice of an action." (Chambers 1966: 91, italics in original, footnote reference omitted)

All other parts of Chambers' scheme revolve around the idea of adaptation. Consistent with the assumption of adaptation, Chambers (1966) emphasizes the balance sheet over the income statement and views the balance sheet as a statement of financial position.[33] This is evident from the following excerpts:

> An income statement is derived, fundamentally, by inference from two successive statements of financial position. (Chambers 1966: 118)
>
> ----- financial positions at successive points are the primary data from which income is but an inference. (Chambers 1966: 342)

Financial position is defined 'as the capacity of an entity at a point of time for engaging in exchanges' (Chambers 1966: 81). It is represented by the relationship between the monetary properties of the means of an entity and the monetary properties of its obligations. Thus assets and liabilities should be reported at their current cash equivalents. This means that assets should be reported at their resale value (i.e., realizable value) and liabilities should be reported at their present value.

However, Chambers insists on recording bonds payable at their face value and marketable bonds and other securities held as investment at market prices. Thus, liabilities and assets are accorded asymmetric treatment. Furthermore, recording bonds payable at face value contradicts Chambers' emphasis on the entity's adaptive ability, since if the entity wants to purchase its own bonds in the market, it would have to be pay its prevailing market price, not face amount of the bond.

Changes in the general price level and relatives prices of assets change the monetary equivalent of durable goods and thus impinge on the entity's capacity to adapt. Hence, price changes should be incorporated in the assessment of financial position.

Income is calculated after adjustment of initial financial position for changes in general price level. The adjustment for changes in general price level is called capital maintenance adjustment. However, changes in relative prices of assets held by the entity give rise to income or loss for the period. To be specific, the difference between specific price of an asset and the general price level is considered as income of the period.

In Chambers' scheme, depreciation expense is not a process of allocating the cost of depreciable assets. Rather they are the decline in the resale value of assets due to wear & tear and technological obsolescence. It is to be noted that Chambers wants to distinguish between depreciation and economic obsolescence if necessary price data are available. In the case of

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his scheme. The decision to which accounting information is required to be relevant is the entity's adaptive choice. Selling price of assets has this and other characteristics.

[33] It is to be noted that there is a chapter on financial position and none on income statement. And, discussion on the income statement is made in that chapter.

unavailability of necessary data, these two factors are combined in one measure called depreciation and obsolescence.

It is to be noted that Chambers assumes the entity to be a going concern. But he assumes that the entity adapts to the market environment by reselling its assets. This means that no asset is irrevocable. Like current assets, fixed assets are also revocable. Thus Chambers' interpretation is opposite the usual interpretation.

The idea of adaptation impacts the definition of assets also. Since a firm wants to adapt to its environment- the market in particular- by reselling its assets, assets are defined as severable means.[34] Following this, goodwill is not treated as an asset. The principal justification is that goodwill can not be sold separate from the business. Assets that are specific to the accounting entity and hence have no market value are not treated as assets also. This is because these assets restrict the entity's ability to adapt to the market environment. Hence, Chambers believes that financial statements should reflect this reality. Outlays on these specific assets are expensed in the period of expenditure and zero values are assigned to these assets in the balance sheet. Chambers thus emphasizes the value in exchange[35] and ignores the value in use of assets. Chambers also apparently ignores the possibility that an asset that has no market value when sold separately may command the same when sold in combination with other assets. In other words, the market value that an asset will command may depend on whether it is sold in isolation or in combination with other assets. As Benston (1967) rightly points out, this violates the principle of additivity with which Chambers is very concerned.

While flexibility is a virtue in an environment of uncertainty, some firms may intentionally commit themselves to inflexibility. They may invest in specific assets that are most valuable in one specific setting. Asset specificity has degrees. The more specific an asset is, the greater the proportion of its investment value that would be lost if it were used outside the specific setting (Milgrom and Roberts 1992: 135). If these firms adopt Chambers model of financial reporting, they will have to write off a large part of these assets in the year of acquisition even though they may value these assets tremendously. This, Benston (1967) indicates, may affect negatively managers' decisions to acquire this type of assets.

Chambers' view is that the firm adapts by reselling its assets only. The resale value reflects the amount available for action in the market. Even if one subscribes to this idea as the goal of financial reporting, one may question why firms should adapt to the market environment by reselling assets only. Firms can adapt by replacing assets also. Hence replacement costs would also be useful in the decision to adapt. Furthermore, in its quest for funds, firms can, and do, rely on the money market and the capital market for funds. Chambers seems to ignore this point.

One consequence of Chambers' scheme is that financial statements become allocation-free (Kam, 1990). As we have seen, depreciation expense in Chambers' scheme is not an allocation of cost. Rather it is the decline in the market price of an asset.

There is inconsistency between Chambers' stated goal and the detailed rules he lays out for achieving that goal. For example, while he proposes that assets be shown at resale value, his proposal for inventories departs from that. Inventories should be valued at replacement cost,

[34] Severability means exchangeability. It means that the asset must be capable to being sold in the market separate from the entity that owns it. Thus, severability is the most important criterion of assets. FASB (1985) has not adopted this criterion in its definition of assets.

[35]FASB (1985) has not adopted this criterion in its definition of assets. Instead it emphasizes the future service potential of assets. The future service potential of an asset encompasses both value in exchange and value in use.

with resale value providing the upper limit. Fixed assets that he terms durables inventories should be reported at resale values if such values are available. If such market prices are not available, specific index numbers be used for transforming the initial cost. Thus, as opposed to Chambers' claim, the resulting figures of assets do not become additive. It is to be noted that Chambers criticizes historical cost accounting as resulting asset figures that are not additive. This is because asset figures in the balance sheet are historical costs of different dates.

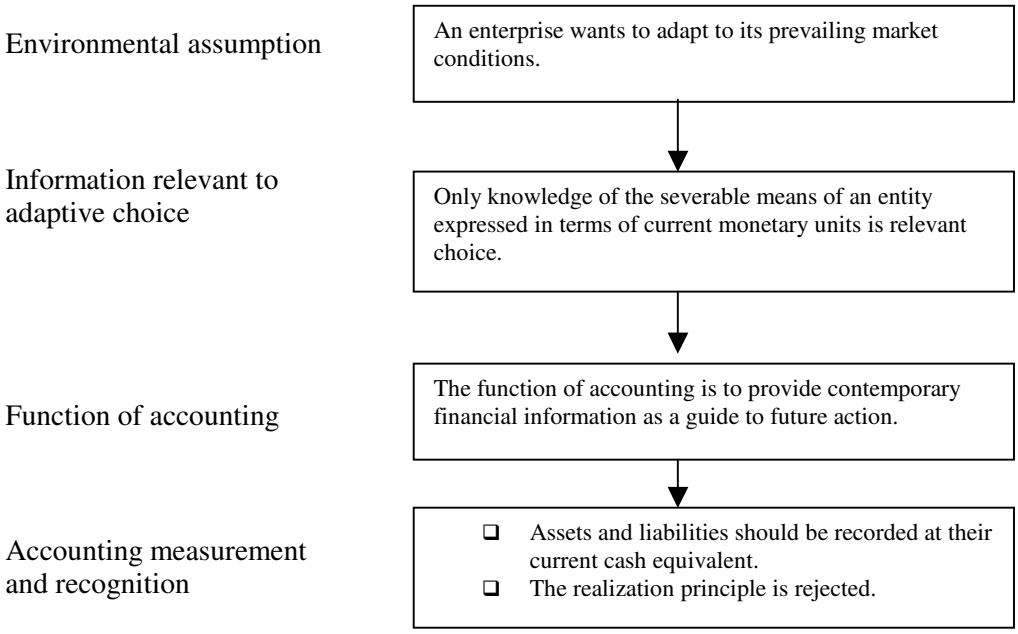

Figure 4: Chamber's (1966) scheme

Ijiri (1975)

Ijiri is an inductivist. He theorizes conventional historical cost accounting and is a staunch supporter of the historical cost principle. On the one hand, he develops three axioms from which, he claims, conventional accounting practice can be derived. On the other hand, he offers justifications in favor of this principle.

The three axioms are as follows (Ijiri 1975: 74):

> Axiom of Control: The set of all resources under the control of an entity at time t can be identified uniquely at that time or later.
>
> Axiom of Quantities: All resources under the control of an entity at time t can be uniquely partitioned into classes of resources at that time or later in such a way that for each class a nonnegative and additive quantity measure is defined. This measure has the property that two sets of resources in the same class are treated as being substitutable in the uses of the resources if and only if their quantities are the same.
>
> Axiom of Exchanges: Every change in the set of resources under the control of the entity can be classified uniquely as it occurs either as terminator of an old simple exchange or an initiator of a new simple exchange with an estimated terminator.

To Ijiri, the above axioms are analogous to the five axioms of Euclidean geometry from which all theorems in Euclidean geometry can be derived. Ijiri claims that present accounting practice can be derived from the above three axioms. Once the three judgements are made, what remain in accounting are merely computational procedures.

Under conventional accounting legal ownership is the basis of control of resources. Resources expected to be acquired or delivered in the future are not recorded unless those resources relate to estimates of terminators[36] whose initiators already happened in the past. The quantity measure defined for each class of resources is the basis of cost allocation between resources consumed and resources unused. An exchange means an action through which the entity forgoes control over some resources to gain control over some other resources. Exchanges include not only exchanges in the market but also exchanges in production. For example, consumption of raw materials to produce finished goods is an exchange.

It is to be noted that the Axiom of Control is related to the Axiom of Exchange in that the entity gains and relinquishes control over resources through exchanges. Once acquired, resources remain in control of the entity until it forgoes control through another exchange. Thus past records provide evidence of which resources are in control of the entity.

Under conventional accounting resources are recorded at the historical cost and once recorded, asset values are not revised in consonance with changes in the market prices of the assets. The Axiom of Control and the Axiom of Exchange allow the recording of actual transactions only, which is a hallmark of historical cost accounting. Recording changes in price levels and hypothetical transactions is thus ruled out. Also rejected is the conservatism convention, which requires the adjustment of inventories and short-term marketable securities to market price if that is lower than recorded amount.

As mentioned earlier, three judgements - control, quantity, and exchange – are all that are needed for conventional accounting. It is not always easy to make accurate judgements on these issues, however. For example, does R & D expenditure always give rise to an asset for entity? Even if one assume that an entity acquires an asset as a result of R & D expenditure, how can one determine that the entity is still in control of the resource at a later point in time? How can one determine the quantity measure for this asset so that the cost may be allocated between the consumed part and the unused part? These questions are almost equally applicable for other intangibles such as goodwill, patent, copyright, etc. Thus we run into difficulties when we want to explain the accounting treatments for intangibles by the three axioms of Ijiri.

There are other issues in accounting that are not covered by the axioms of Ijiri. For example, are donations received by the entity increases in revenues or increases in shareholders' equity? The problem of allocation is scantly touched in Ijiri's analysis. These are non-trivial issues. Ijiri focuses on resources and defines income in Hicksian fashion. Thus the matching process, through which costs are matched against revenues and periodic net income is determined, is hardly discussed by Ijiri.

As mentioned earlier, Ijiri is an inductivist. He inductively derives the goal implicit in current accounting practice and uses this goal to suggest improvements in practice. In inducing the goal, he emphasizes the fact that accounting records every transaction. The rationale of this practice, he argues, is that the accountee is accountable for every transaction. He further claims that in a business in which outsiders invest, a manager maintains accounting records not because he expects to use them in internal decision making, but because he expects the records to generate useful information for use by the investors. Thus, he tells us, the goal underlying present accounting practice is accountability. Accounting facilitates the smooth functioning of '*accountability* relationships among interested parties' (Ijiri 1975: ix, italics in original). And, it

[36] Every transaction has two parts: initiators and terminators. For example, when cash payments are made as consideration for inventories to be received in the future, cash payment is the initiator and receipt of inventories is the terminator.

is accountability that distinguishes accounting from other information systems in an organization or a society. This is the basic viewpoint of Ijiri (1975).

Historical evidence does not lend support to Ijiri's claim that a business manager maintains accounting records primarily for the outside investors. The generation of huge accounting and other operating data within the American railroad business during their early years during the nineteenth century was driven mainly by the internal information needs of the railroad managers (Chandler 1977).

This highlights the problem of induction in social sciences in general and accounting in particular. Social facts are not homogeneous. Specially, accounting did not develop according to a unified conceptual scheme. Rather, as MacNeal (1939) says, it developed in a piecemeal fashion in response to diverse business needs. Thus to attempt to generate a general statement about the underlying goal of accounting by induction is certain to face problems. Furthermore, the same accounting facts can be viewed from different perspectives.[37] Accountability is one such important perspective on accounting.

Ijiri distinguishes his approach from the decision usefulness approach along the following three dimensions:

First, the decision usefulness approach emphasizes the output of the accounting system, i.e., financial statements. The accountability view stresses the system behind the financial statements.

Second, the accountability view anticipates the pressure to bias accounting information and emphasizes the establishment of a system that is strong enough to withstand such pressures.

Third, the accountability view treats the accounting system as the equilibrium outcome of the accountor-accountee relationship.

Three parties are involved in an accountability relationship: accountee, accountor, and accountant. The accountability relationship normally requires the accountor to account to the accountee for his (accountor's) activities and the consequences thereof. The accountor keeps detailed records for the benefit of the accountee. An accountant joins this relationship as a third party. He helps the accountor to account for his activities and supplies information to the accountee. Ijiri (1975) thus treats the accountee and the accountor symmetrically (Sunder 1997: 6).

In an accountability relationship, the accountor is responsible to the accountee for the achievement of the goals assigned to the accountor. Information on the accountor's progress toward the achievement of the goals must be supplied to the accountee. The key issue in accounting is, thus, '*measurement of the economic performance of the accountor*' (Ijiri 1975: ix, italics in original).

Performance measurement occurs in a competitive environment. There is pressure to bias the performance measure. This leads Ijiri to emphasize that the performance measure should be such that it is difficult to bias it in one direction or another. He develops a concept 'hardness' of a measure for this purpose. 'A "hard" measure is one constructed in such a way that it is difficult for people to disagree. A "soft" measure is one that can easily be pushed in one direction or the other. For example, cash balance is a hard measure, while goodwill is a soft

[37] Resolution of the choice problem, i.e., the choice between alternative perspectives, normally hinges upon the relative richness of the testable implications of each perspective. This is not always easy to apply this criterion, especially when the implications of different perspectives relate to different empirical domains. In such cases, the alternative perspectives coexist. The capital market-based accounting research and positive accounting theory are two such examples.

measure' (p. 36). To limit the room for dispute, Ijiri says, three ingredients are necessary. First, measurement should be based on verifiable facts. Second, the measurement process must be well-specified. Third, the number of justifiable rules should be restricted.

The third requirement seems impracticable at the present state of accounting. While Ijiri does not rule out the necessity of alternative rules, he feels it 'essential to specify the conditions under which each alternative is applicable so that under a given situation *one and only one* of the alternatives is considered to be legitimate' (Ijiri 1975: 36, italics added). This is an ideal to be targeted at. Thomas (1969) argues that no accounting policy can be shown to be conclusively superior to another.

The accountability view should be the basis of flow of information from the entity to the users. He emphasizes the accountee's 'right to know'. The purpose of the introduction of this concept in Ijiri's scheme seems to limit the users who are entitled to have information from the entity.[38] However, Ijiri's purpose of limiting the recipients of accounting information is not served by the concept 'right to know' due to the broad basis of accountability. 'The accountability relationship may be created by a constitution, a law, a contract, an organization rule, a custom, or even by an informal moral obligation. A corporation is accountable to its shareholders, creditors, employees, consumers, the government, or the public in general based on a variety of relationships created between them' (Ijiri 1975: ix). This quotation indicates that virtually everybody has the right to know from the entity.

We have noted that Ijiri is a strong supporter of the historical cost principle. He offers three major justifications in favour of this principle. First, the proper functioning of accountability rests on proper records of past activities. And, the historical cost principle requires the recording of all actual transactions. Second, this principle yields the most useful performance measure. Other bases of measurement such as net realizable value and replacement costs may be useful to some decisions. Ijiri rejects these bases for continuous recording on the ground that these bases are based on actions (i.e., selling and buying at the balance sheet date) that entity normally does not intend to undertake. Thus, he invokes the going concern assumption here. Ijiri says that value is two-dimensional concept. These are sacrifice value and benefit value. Ijiri opts for the sacrifice value i.e., historical cost on the ground of hardness of the measure. Third, historical cost is useful to economic decisions in general. Ijiri's main arguments are shown in Figure 1.

Ijiri, however, does not think that historical cost is flawless. At present only those contracts are recorded at least one part of which has been performed. Executory contracts are not recorded. Executory contracts are those contracts in which no party has performed his/her part. Ijiri recommends that we switch from the present accounting practice to commitment accounting. In commitment accounting, executory contracts are recorded. He further supports the public disclosure of financial forecasts and calls for developing forecasting principles to make the public forecasts harder.

[38] It is difficult to reconcile this proposal with the observed phenomenon of widely circulating the annual report of a company. Sunder (1997) offers an explanation for this. He argues that public disclosure of accounting information ensures that accounting information is common knowledge. This common knowledge serves two important purposes. First, it helps efficient contract negotiation and renegotiations among the contracting agents. Second, it helps ensure liquidity of the markets for the services of the contracting agents.

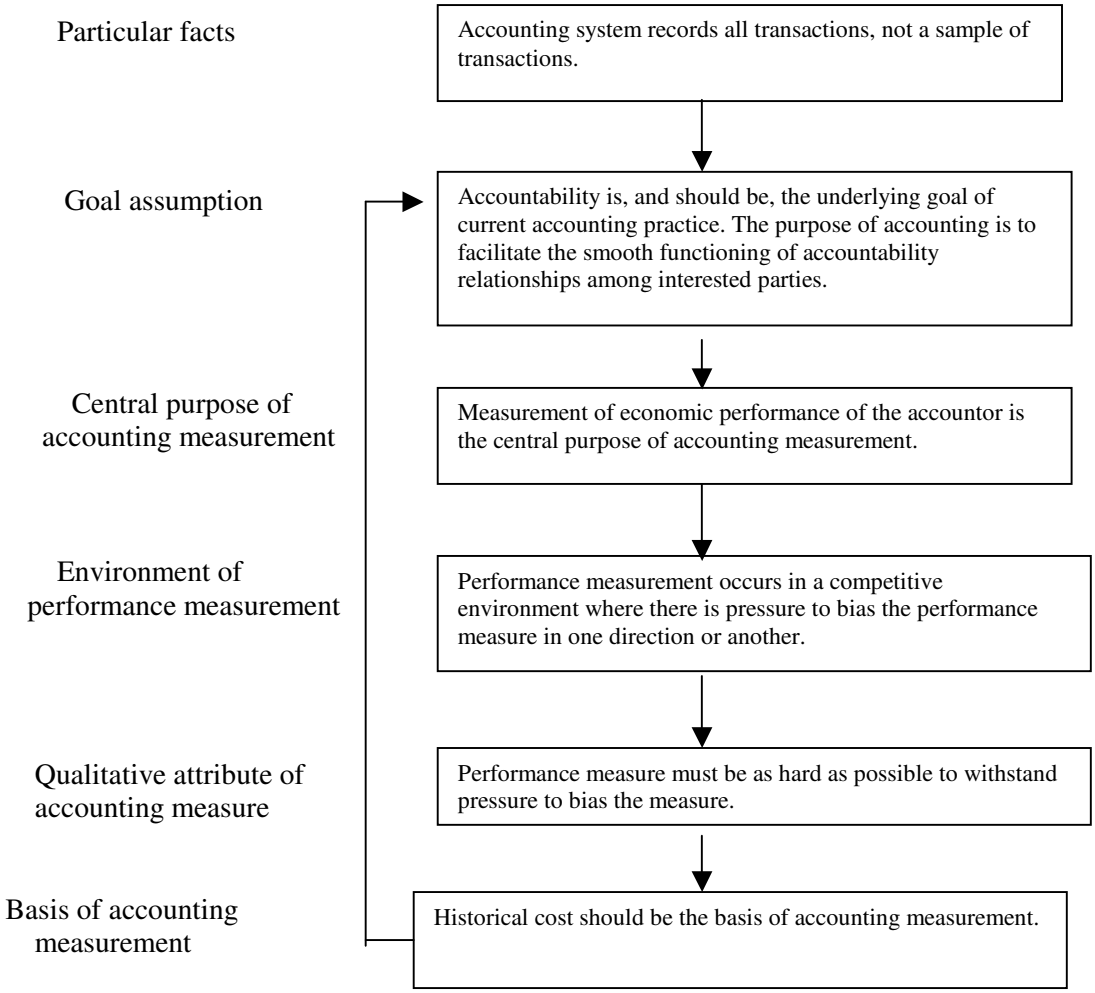

Figure 1: Ijiri's (1975) theoretical structure

Overall Discussion

The works reviewed here can be classified into two groups: the historical cost camp, which includes P & L (1940), Littelton (1953), and Ijiri (1975), and the market price camp, which includes MacNeal (1939) and Chambers (1966). Broadly speaking, P & L, Littleton, and Ijiri recommend the historical principle. MacNeal recommends market prices (when such prices are available), replacement cost (in the case of non-marketable but reproducible assets), and historical cost (in the case of non-marketable and non-reproducible assets). Chambers recommends resale prices (realizable value). It is to be noted that the advocates of historical cost do not deny the usefulness of information on replacement cost and resale prices of assets. However, they contend that such information is useful in making some specific decisions only such as replacing and selling assets. They are not useful for the economic decisions in general. Hence, they are not appropriate bases for continuous accounting records. Littleton, however, recommends the supplementary disclosure of market prices and places emphasis on the increase in the interpretative skill of the accountant so that the above and other limitations of accounting can be mitigated.

As we have seen, this difference among the theorists regarding the basis of measurement in accounting stems primarily from their different notions of the function of accounting. For example, Ijiri views accountability as central to accounting. Thus accounting should facilitate

the smooth functioning of accountability network. On the other hand, Chambers thinks that the central issue facing a firm is whether it can adapt to its market environment. And accounting should provide contemporary information useful to the adaptive choice. For Littleton, an entity is an economic entity that exists to provide economic goods and services and its performance should be judged by how far it has achieved its objectives. Thus, income determination through matching of costs (efforts) and revenues (accomplishments) is central to accounting.

The historical cost advocates differ among themselves in some respects. For example, one basic concept of P & L is measured consideration. This concept says that accounting records the price aggregate involved in an exchange transaction and these records are not adjusted for subsequent changes in the market prices of assets unless the entity is a party to the transaction. Thus historical cost is basic assumption in P & L's framework. The same can not be said of Ijiri's framework. Instead of using this assumption directly, he deduces it from other postulates (i.e., accountability and performance measurement in a competitive environment). Littleton also deduces it from other principles such as the objectivity principle and the entity principle. It is to be noted also that P & L and Littleton use the assumption/principle of objectivity directly. Ijiri deduces the concept of hardness from other postulates (i.e., accountability and performance measurement in a competitive environment).

This paper shows that there is a lack of agreement among the theorists over the basic assumptions of accounting. The going concern assumption is a case in point. MacNeal (1939), P &L (1940), and Littleton (1953) have explicitly used this assumption. This assumption is implicit in Ijiri's (1975) analysis. However, Chambers (1966) reject the traditional interpretation of this assumption. Again, the theorists who subscribe to this assumption differ in drawing implications of this assumption. For example, P & L, Littleton, and Ijiri argue that the going concern assumption implies that historical cost is the most appropriate basis of measurement. They also reject the idea of periodic revaluation of assets on the ground that the entity is a going concern and normally does not intend to replace or resell its fixed assets at the balance sheet date. On the other hand, MacNeal's position is diametrically opposite that of the advocates of historical cost principle. He appeals to the going concern assumption as the ground for rejecting the historical cost principle. He argues that the cost basis was appropriate when the entity had limited life and the venture was terminable. At that time what was important was the cost to date of the venture. The time when the entity became a continuing concern the cost basis lost its appropriateness. This is because in a going concern it does not matter whether revaluation gain or loss is realized or unrealized at the balance sheet date. Hence the recommendation for valuing assets at market prices at the balance sheet date.

The theorists also differ as to the relative importance of reliability in accounting. For example, the advocates of historical costs place utmost importance on concepts such as objectivity, verifiability, and hardness of accounting measure. Their advocacy of historical cost rests partially on the ground that it is the most objective measure. Though the advocates of market prices are also concerned with reliability, the degree of emphasis placed on it is certainly less than that placed by the advocates of historical costs.

Though there is similarity between MacNeal (1939) and Chambers (1966), there are also important dissimilarities between them. Both of them advocate the incorporation of market prices (current exit prices) in accounts. But the agreement basically ends here. Chambers proposes to expense immediately all expenditures on assets that have no market. MacNeal, on the other hand, is not so extreme. As we have seen, he proposes to show assets at their present replacement costs if the asset is reproducible but is not marketable. In the case of non-marketable, non-reproducible assets, he proposes to show assets at historical costs. Furthermore, MacNeal does not make any distinction between changes in general price level and changes in relative prices of assets. Chambers makes this distinction. He asserts that income emerges only after the maintenance of capital, which takes into account the general

price level changes. Changes in relative prices over and above the rate of change in general price level are treated as income or loss. MacNeal, without making any such distinction, treats all unrealized gains and losses symmetrically and wants the entity to report these gains and losses in the income statement. Difference exists in the definition of depreciation. MacNeal proposes to allocate the present economic value of an asset among the periods benefited. Chambers, on the other hand, calculates depreciation as the change in resale price of an asset. There are also differences towards using the market price. For example, MacNeal proposes to use the market price (current exit price) only when there is free, competitive market for the asset in question. Chambers, on the other hand, does not require the existence of a free, competitive market. He rather argues that the market, whatever may be the degree of comparison, determines the environment in which the entity operates.

Table 1 presents a comparison of the works reviewed here. Like any summary, this table is biased. For example, Chambers has used the going concern assumption in his scheme. But, as we have seen, his interpretation of this important assumption differs from the traditional one. For the sake of convenience, we have said in the table that Chambers has not used this assumption (in the traditional sense).

Please insert Table 1 here

The Present- An Assessment

Accounting practice is neither wholly customary nor wholly theoretical (Littleton 1953). Both customs and theory have shaped accounting practice. As noted in footnote 1, accountants were primarily concerned with developing accounting practice prior to the twentieth century. Accounting practice evolved during the last few centuries. Starting with the twentieth century, accounting academics and practitioners have concerned themselves with development of accounting principles. Now accounting theory is dominant in shaping practice.

Standard setters around the globe are now setting accounting standards, thus influencing accounting practice. Two standard setting bodies deserve special mentioning. One is the Financial Accounting Standards Board (FASB) in the U. S. A. and the other is the International Accounting Standards Board (IASB) that sets international accounting standards. Both FASB and IASB have developed and adopted conceptual frameworks for external financial reporting. These bodies now use the frameworks as a basis of setting new accounting standards and amending the current ones. Specially, FASB and IASB have concentrated their attention on removing inconsistencies in the light of the frameworks.

Reliability and conservatism are still dominant themes in accounting practice. For example, both FASB and IASB frameworks require that an item must be capable of being reliably measured in order to be recognized in the financial statements. Though FASB puts relevance as one of the four conditions of recognition, no such condition is put in IASB framework. Again, conservatism is evident in the asymmetric treatment of contingent gains and loss. To recognize a contingent gain, it must be certain that the gain occurs. To recognize a contingent loss, however, it is sufficient for the loss to be probable only. It is to be noted that FASB (1980) tries to redefine conservatism in the framework and clarifies its rationale. Its impact on practice, however, is yet to be seen.

Present accounting and reporting framework retains some important elements of those of P & L (1940) and Littleton (1953). Income determination is central to present accounting practice[39]

[39] However, contrary to Littleton (1953) and P & L (1940), both the FASB framework and the IASB framework adopt the asset-liability view of income determination. Asset has conceptual primacy in both frameworks.

and historical cost is the basis of initial measurement in most of the cases. This emphasis on reliability and objective evidence seems to be the product of the need for the same that arose because of the proliferation of accounting techniques and procedures during the 1920s and 1930s in the United States of America.[40] And reliability is expected to continue to be a major requirement in future accounting practice as a deterrent to managers' propensity to manipulate accounts.

Current accounting practice adopts an eclectic approach to valuation. And, the trend seems to be away from the historical cost principle and towards fair value where such value is reliably determinable. For example, FASB (2001) requires that an impaired asset be measured at its fair value. Originally Statement of Financial Accounting Standards (SFAS) No. 121 had this requirement.[41] Two members of FASB- Messrs. Anania and Northcutt, who were members at the time issuing Statement of Financial Accounting Standards No. 121- criticized this as not being within the historical cost model (FASB 1995). This is because measurement of an impaired asset at its fair value is a departure from the actual transactions-based accounting-a hallmark of the historical cost model. FASB defends it on the ground that the fact that an asset has been impaired is equivalent to fresh purchase of the asset by the entity and hence fair value is the appropriate basis of measurement of the impaired asset.

And, the cry for market price-based information has not gone totally unheeded. Specially, Chambers' concern for information relevant to adaptive choice has some place in accounting. Though the primary focus of financial reporting is information about earnings and its components, FASB (1978) recommends that financial reporting should provide cash flow information. Now both FASB (1987) and IASC (1997) require the provision of cash flow statement. FASB (1984: para 52) describes the usefulness of cash flow information in the following words:

> It [the cash flow statement] provides useful information about an entity's activities in generating cash through operations to repay debt, distribute dividends, or reinvest to maintain or expand operating capacity; about its financing activities, both debt and equity; and about its investing or spending of cash. Important uses of information about an entity's current cash receipts and payments include helping to assess factors such as the entity's liquidity, financial flexibility, profitability, and risk.

Thus, by providing the cash flow statement, present accounting practice takes care of some of Chambers' concerns.

Anticipations

The major contribution of the normative accounting literature lies in debating the pros and cons of various ways of improving the accounting system. This provides a framework to which accounting regulators can refer at the time of deciding on a particular measurement basis. This is not its lone contribution, however. It may be said that this literature anticipated the development of some major research strands in accounting.[42]

Now two dominant strands of empirical accounting research are stock market-based research in accounting (SMBRA) and research in earnings management (REM). The first group of researchers investigated into the stock market reaction to releases of earnings information to the

[40] Paton (1940) tells us that almost all the prospectuses covering bond issues during predepression days in the U. S. A. provided estimated market values of mortgaged properties without any indication of what those properties had cost. He indicates that this caused trouble to small investors and this could be mitigated by providing the actual cash costs of the properties. See also Bedford and Ziegler (1975) for a discussion on the development of emphasis on objective evidence in accounting during the 1930s in the U. S. A.

[41] SFAS 144 supersedes SFAS 121.

[42] It is to be admitted that in pointing out these anticipations, we have the benefit of hindsight.

stock market.[43] The decision usefulness approach to accounting theory explicitly emphasizes the usefulness of accounting information in making various economic decisions, especially investment and credit decisions. The SMBRA documented that earnings numbers contain information useful in stock pricing. Numerous other studies found evidence on the usefulness of accounting information in other decisions such as bankruptcy prediction, credit rating, valuation of unlisted companies, etc.

The REM investigated into managers' incentives to manage reported earnings. It found that managers face various incentives to manage income and do manage reported income in response to these incentives.[44] The possibility of earnings management is recognized in the normative accounting literature. Accountants have traditionally emphasized the objectivity of accounting measurement (Paton and Littleton 1940; Littleton 1953). Ijiri (1975) goes a step further and emphasizes that it is not sufficient for accounting measurement to be objective only, it must be the hardest possible. Accountants have placed emphasis on objectivity and hardness of accounting measures in response to the probability that managers may manage income thus jeopardizing the credibility of accounting reports. Probably some of the earliest explicit references to earnings management are found in MacNeal (1939) and P & L (1940). MacNeal in his three fables discussed how earnings numbers can be managed within the present accounting framework. And P & L (1940: 86) contains the following explicit reference to earnings management:

> The accounts should not be artificially modified in order to yield income statements which show a smooth flow of income.

Ijiri (1975) emphasizes the linkage between accountability and accounting. He argues convincingly that accounting facilitates the smooth functioning of various networks of accountability upon which modern societies rest. Societies differ in terms of the degree of emphasis placed on the notion of accountability. Ijiri's argument suggests that the role of accounting would be different in different societies depending on the degrees of emphases placed on accountability. An extension of Ijiri's thesis would be that the role of accounting in a society would depend on its socio-cultural norms. Accounting is embedded in the socio-cultural norms of a society. This aspect is getting increasing emphasis in accounting research now-a-days.[45] Though some studies have been made in this direction, much remains to be done.

P & L (1940: 1) contains explicit reference to the agency theory and underscores the need for accounting standards in such a setting. In P & L (1940: 2-3) we also find what may be termed the rudiments of what is now known as the contracting view of accounting. They recognize that a corporation is a cooperative organization comprising management, investors, employees, customers, government, and the public at large and it is necessary to do justice to each group. Corporate reports thus take on a public character and contain the basic data for these interest groups. They, however, stop here instead of analyzing the consequences of this view of accounting.[46]

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[43] See Brown (1994) for an introduction to capital market accounting research.

[44] See Watts and Zimmerman (1986) for an introduction to the earnings management literature.

[45] See, for example, the anthology edited by Hopwood and Miller (1994). It contains 12 chapters contributed by different authors. The central theme is accounting is regarded as a '*social and institutional practice,* one that is intrinsic to, and constitutive of social relations, rather than derivative or secondary' (Miller 1994: 1, italics in original). Accounting affects 'the type of world we live in, the type of social reality we inhabit, the way in we understand the choices open to business undertakings and individuals, the way in which we manage and organize activities and processes of diverse types, and the way in which we administer the lives of others and ourselves' (Miller 1994: 1). See also Yamaji (1994). He links the societal role of accounting to the different stages of socio-economic development in different states of the United States of America during the nineteenth century.

[46] See Sunder (1997) for an excellent introduction to the contracting view of accounting and the testable implications derived from this view.

More explicit reference to the contracting theory is found in Chambers (1966). He cited some of the same early works on organization theory that later shaped the development of the contracting theory of accounting.

References

Alexander. S. S. 1950. Income measurement in a dynamic economy. *Five Monographs on Business Income.* New York: The Study Group on Business Income, The American Institute of Certified Public Accountants.

American Accounting Association. 1966. Committee to Prepare a Statement of Basic Accounting Theory. *A Statement of Basic Accounting Theory [ASOBAT]*. Sarasota, Florida: American Accounting Association.

American Accounting Association. 1977. Committee on Concepts and Standards for External Financial Reports. *Statement on Accounting Theory and Theory Acceptance*. American Accounting Association.

Ashton, T. S. 1968. *The Industrial Revolution 1760-1830*. (1997 reprint with new preface by Pat Hudson). Oxford: Oxford University Press.

Bedford, N. M. and R. E. Ziegler. 1975. The contribution of A. C. Littleton to accounting thought and practice, The Accounting Review, Vol. 50 (No. 3): 435-443, reprinted in Michael J. Gaffikin and Michael J. Aitken (eds.). 1982. The Development of Accounting Theory: Significant Contributors to Accounting Thought in the 20th Century, pp. 129-137. New York: Garland Publishers, Inc.

Benston, G. J. 1967. Book review of Accounting, Evaluation and Economic Behavior, *American Economic Review*, 297-299, reprinted in Michael J. Gaffikin and Michael J. Aitken (eds.). 1982. The Development of Accounting Theory: Significant Contributors to Accounting Thought in the 20th Century, pp. 201-203. New York: Garland Publishers, Inc.

Brown, P. 1994. *Capital Market-Based Research In Accounting: An Introduction.* Melbourne: Coopers & Lybrand and Accounting Association of Australia and New Zealand.

Canning, J. B. 1929. *The Economics of Accountancy*. New York: The Ronald Press Company.

Chambers, R. J. 1966. *Accounting, Evaluation and Economic Behavior.* Englewood Cliffs, N. J.: Prentice Hall.

Chandler, Jr., A. D. 1977. *The Visible Hand-The Managerial Revolution in American Business.* Cambridge: Harvard University Press.

Christensen, C. 1983. The methodology of positive accounting, *The Accounting Review,* Vol. LVIII (No.1, January): 1-22.

Chua, W. F. 1986. Radical developments in accounting thought, *The Accounting Review,* Vol. LXI (No. 4): 601-632.

Feyerabend, P. 1993. *Against Method*. Reprinted in 2000. New York: Verso.

Financial Accounting Standards Board (FASB). 1978. *Objectives of Financial Reporting by Business Enterprises*. Statement of Financial Accounting Concepts No. 1. Stamford, Connecticut: FASB.

Financial Accounting Standards Board (FASB). 1980. *Qualitative Characteristics of Accounting Information*. Statement of Financial Accounting Concepts No. 2. Stamford,

Connecticut: FASB.

Financial Accounting Standards Board (FASB). 1984. *Recognition and Measurement in Financial Statements of Business Enterprises*. Statement of Financial Accounting Concepts No. 5. Stamford, Connecticut: FASB.

Financial Accounting Standards Board (FASB). 1985. *Elements of Financial Statements.* Statement of Financial Accounting Concepts No. 6. Stamford, Connecticut: FASB.

Financial Accounting Standards Board (FASB). 1987. *Statement of Cash Flows*. Statement of Financial Accounting Standards No. 95. Stamford, Connecticut: FASB.

Financial Accounting Standards Board (FASB). 1995. *Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to be Disposed of.* Statement of Financial Accounting Standards No. 121. Stamford, Connecticut: FASB.

Financial Accounting Standards Board (FASB). 2001. *Accounting for the Impairment or Disposal of Long-Lived Assets.* Statement of Financial Accounting Standards No. 121. Stamford, Connecticut: FASB.

Friedman, M. 1953. The methodology of positive economics, *Essays in Positive Economics,* Chicago: University of Chicago Press. Reprinted by Chicago: Phoenix Books, 1966.

Hatfield, H. R. 1927. *Accounting.* New York: D. Appleton & Company.

Hines, R. 1988. Financial accounting: In constructing reality, we construct reality, *Accounting, Organizations and Society,* Vol. 13(3): 251-261.

Hopwood, A. G. and P. Miller (eds.) 1994. *Accounting as Social and Institutional Practice*. Cambridge Studies in Management 24, Cambridge: Cambridge University Press.

Ijiri, Y. 1975. *Theory of Accounting Measurement*. Studies in Accounting Research. Sarasota, Florida: American Accounting Association.

Ijiri, Y. 1999. The cost principle and the labor theory of value in relation to the role of accounting theories and their depth. In Shyam Sunder and Hidetoshi Yamaji (eds.). *The Japanese Style of Business Accounting.* pp. 177-189. Westport, Connecticut: Quorum Books.

International Accounting Standards Committee (IASC). 1997. *Presentation of Financial Statements.* International Accounting Standard IAS 1 (revised 1997). London: IASB.

Kam, V. 1990. *Accounting Theory*. New York: John Wiley & Sons.

Kuhn, T. S. 1996. *The Structure of Scientific Revolution*. Chicago and London: The University of Chicago Press.

Langer, S. K. 1953. *An Introduction to Symbolic Logic*. Second Edition (Revised). New York: Dover Publications, Inc. pp. 185-186.

Littleton, A. C., 1953. *Structure of Accounting Theory*. Monograph No. 5. Sarasota, Florida: American Accounting Association.

MacNeal, K. 1939 (Reprinted in 1970). *Truth in Accounting*. Texas: Scholars Book Company.

Mautz, R. K. and H. A. Sharaf. 1961. *The Philosophy of Auditing*. Monograph No. 6. Sarasota, Florida: American Accounting Association

Milgrom, P. and J. Roberts. 1992. *Economic, Organization and Management.* New Jersey: Prentice Hall.

Miller, P. 1994. Accounting as social and institutional practice: An introduction. In Anthony Hopwood and Peter Miller (eds.). *Accounting as Social and Institutional Practice*. Cambridge Studies in Management 24, Cambridge: Cambridge University Press. pp. 1-39.

Paton, W. A. 1922. *Accounting Theory*. New York: The Ronald Press Company.

Paton, W. A. 1940. Book review of Truth in Accounting, *Journal of Political Economy*, April: 296-298, reprinted in Michael J. Gaffikin and Michael J. Aitken (eds.). 1982. The Development of Accounting Theory: Significant Contributors to Accounting Thought in the 20th Century, pp. 83-85. New York: Garland Publishers, Inc.

Paton, W. A. and A. C. Littleton. 1940. *An Introduction to Corporate Accounting Standards.* Monograph No. 3. American Accounting Association.

Popper, K. R. 1979. *Objective Knowledge*. Revised edition. Oxford: Clarendon Press.

Sawabe, N. and H. Yamaji. 1999. Institutional accounting research: An introduction. In Shyam Sunder and Hidetoshi Yamaji (eds.). *The Japanese Style of Business Accounting.* Westport, Connecticut: Quorum Books. pp. 3-15.

Searle, J. R. 1995. *The Construction of Social Reality*. New York: The Free Press.

Sterling, R. 1967. A statement of basic accounting theory: A review article, *Journal of Accounting Research,* Vol. 5 (Spring): 95-112.

Sterling, R. 1990. Positive accounting: An assessment, *Abacus,* Vol. 26 (No. 2): 97-135.

Sunder, S. 1997. *Theory of Accounting and Control*. Ohio: International Thompson and Publishing.

Sweeney, H. W. 1936. *Stabilized Accounting*. New York: Harper & Brothers.

Thomas, A. L. 1969. *The Allocation Problem in Financial Accounting*. Studies in Accounting Research No.3. American Accounting Association.

Watts, R. L. and J. L. Zimmerman. 1986. *Positive Accounting Theory.* Englewood Cliffs, New Jersey: Prentice Hall.

Whittington, G. 1987. Positive accounting: A review article, *Accounting and Business Research,* Vol. 17 (No. 68): 327-336.

Yamaji, H. (in Japanese). 1994. *Modern Accounting as a Public Disclosure System of Information*.(Johokokai Seido Toshiteno Gendai Kaikei). Tokyo: Dobunkan.