An "Events" Approach to Basic Accounting Theory

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In 1966, after two years work, a committee of the American Accounting Association issued *A Statement of Basic Accounting Theory*.[1] Undoubtedly, the most startling recommendations were the sanctioning of current costs and the advocacy of two column (historical and current) reports. To this member of the committee, however, even more startling was that the near unanimous agreement on the recommendations was arrived at by following two very divergent paths originating from two very dissimilar basic concepts about accounting. This split is not confined to committee members but rather seems representative of a more widespread and pervasive difference in the world outside. The majority view of the committee and the predominant faction outside believes in what I here define as the "value" approach to accounting. The minority view, of which I am sometimes the only member, I describe as the "events" approach. This view although implied by some in the past[2] has never to my knowledge been explicitly stated but might have far-reaching implications. This paper seeks to describe and contrast the two schools, present arguments for and illustrate the consequences of an "events" approach to accounting theory; and examine the logic leading to the conclusions embodied in the *Statement of Basic Accounting Theory*. Hopefully, this will provide not only insights and help for the analysis and evaluation of the committee's monograph but perhaps also stimulate discussion and criticism of a new approach and suggest new avenues of research and experimentation to make accounting more responsive to present day conditions.

Two Views — Value and Events

The Value Theory

The "Value" school within the committee, or as they would probably prefer to be termed the "User need" school, assumed that users' needs are known and sufficiently well specified so that accounting theory can deductively arrive at and produce optimal input values for used and useful decision models. Most of the value theorists visualize accounting's purpose as producing optimum income and capital value or values.[3] This leads to the popular sport of proper matching of costs and

[1] American Accounting Association, *A Statement of Basic Accounting Theory*, A Report Prepared by the Committee on Basic Accounting Theory (American Accounting Association, 1966).

[2] This idea, like so many others had its origin primarily in the writings and thought of Professor William J. Vatter who I hasten to absolve from any of its shortcomings.

[3] Not all value theorists are income oriented. Chambers for example can be considered a "value" but certainly not an "income" theorist.

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revenue. The assumption is that "proper matching" associates costs and revenue to produce the right income figure or figures—the figure or figures optimal for users' decision models.

Several criticisms may be leveled at this value approach.

1. There are many and varied uses of accounting data and it is therefore impossible to specify input values that are optimal for the wide range of possible uses.
2. For each specified use different users utilize a wide range of different decision models, that they have so far been unable to describe, define, or specify. Further, neither economists nor accountants have been able to advance the theoretically correct decision models.
3. The value theory is unnecessarily restrictive. Thus, events such as leases or commitments have, until recently, tended to be excluded from the accounting universe, partially at least, because they did not affect income or net asset values.

   The orientation of accounting toward producing income and asset values which are nothing but simple attempts to adjust for the lag between cash outflows and cash inflows has impeded the development of more sophisticated lag models made possible by more sophisticated techniques.
4. The value theory is not useful in explaining many current developments in accounting. Income theory, for instance, does not provide a basis for the current sub-aggregates that are utilized in the income statement such as sales, cost of sales, etc. It has also not been helpful in explaining the advocacy of the Fund Statement or in helping the conglomerate and a host of other current problems.

The Events Theory

Proponents of the "Events" theory suggest that the purpose of accounting is to provide information about relevant economic events that might be useful in a variety of possible decision models. They see the function of accounting at one level removed in the decision-making process. Instead of producing input values for unknown and perhaps unknowable decision models directly, accounting provides information about relevant economic events that allows individual users to generate their own input values for their own individual decision models. In other words, given the state of the arts, less rather than more aggregation is appropriate and the user, rather than the accountant, must aggregate, assign weights and values to the data consistent with his forecasts and utility functions. "Events" proponents suggest that the loss of information generated by aggregation and valuation by the accountant is greater than the associated benefit. While they would agree that the accountants' suggested weights and values deserve to be communicated, they would insist that these weights be communicated in disaggregated form so that users always had the nonweighted raw data available as well.

This viewpoint seems particularly appropriate today when little is known about how accounting data is used but may even be preferred when more knowledge about decision models becomes available. It is possible to visualize reasonable decision models that are consistent with an "events" approach rather than a "value" approach. An investor, for instance, attempting to forecast the value of a firm at some future point may utilize two methods: (1) He may base his estimate of future values on the trend, size, and variability of current income or other aggregated values. (2) Alternatively,

he may wish to use current accounting data to predict specific future events and then base his estimate of future values on these predicted events. In other words, he may wish to predict income or he may wish to predict sales, cost of sales, taxes, etc. The first model is more consistent with a value approach, the second with an events approach.

The criticism must be met that the "events" approach relies just as heavily upon knowledge of users' models as does the "value" approach. The argument goes as follows. Decisions as to what events are relevant (surely not all events can be recorded) must be made and can only be made with users' needs in mind. Thus, the users' needs must still be known. This is correct. But it seems clear that less need be known about decision models to decide whether or not an event might be relevant for a model than to have to decide how the data fits a specific decision model and what specific weights should be assigned.[4] In the lease example, under an "events" approach, it is only necessary to decide that information about leases, commitments or orders are relevant to a host of decision models for such information to be included in accounting reports. It is unnecessary to justify how, if at all, this information should be weighted in an income valuation model.

To Aggregate or Not to Aggregate

As has been indicated, the real difference between the two schools lies in what level of aggregation and valuation is appropriate in accounting reports and who is to be the aggregator and evaluator. The question as to who is to aggregate or value is not unique to accounting. As Ijiri points out " . . . any aggregation generally involves loss of information in that the resulting total 'value' may be composed of many—possibly infinitely many—different *components*."[5] It is interesting to note that in two widely different areas there have recently been thrusts toward presenting less aggregated data. In modern statistics it is no longer considered good form to merly report confidence intervals. Instead the plea is for full presentation of the underlying data or distributions.[6] Only the user can decide what is or is not significant, given his loss function. In weather forecasts, we are no longer told that it will or will not rain or snow. Instead we are given probability estimates and must ourselves decide whether or not to carry umbrellas or to send out work crews. We are given the underlying raw data and must assign values consistent with our individual utility functions.

Accounting income has variously been thought of as a measure of how much can be spent and still be as well off as before, as a measure of managerial efficiency or as a basis for forecasting future values. But each of these depends on individual expectations, individual preference functions and individual decision models not on some never clearly defined concept of "proper matching of costs and revenues." Unfortunately this attempt to match, the assigning of weights to generate values, the attempt to aggregate into an income figure, destroys potentially useful information about important underlying events and increases possible measurement errors and biases. Every item on an income statement is the result of at least two processes—the underlying event and the accountants' allocation of the event to a particular time period. This allocation has

[4] ". . . a goal which by itself may not be so capable of definition as to determine a single perfect solution may nevertheless be clear enough and important enough to rule out some solutions . . ." from Guido Calabresi, "Fault, Accidents, and the Wonderful World of Blum and Kalven," *Yale Law Journal* (December 1965), p. 222.

[5] Yuji Ijiri. *The Foundations of Accounting Measurement* (Prentice-Hall, Inc., 1967), p. 120.

[6] See Howard Raiffa and Robert Schlaifer, *Applied Statistical Decision Theory* (Harvard University, Division of Research, Graduate School of Business, 1961), p. 68.

the purpose of matching in order to derive a "true" income figure or figures. Lifo and Fifo for example are used in an attempt to produce better income figures. Both, however, destroy information about the consumption event. If either Lifo or Fifo is used consumption of two identical units bought at different prices will necessarily be described differently. A user interested in comparing consumption activity for two periods is unable to distinguish between variations caused by the measurement process, be it Lifo or Fifo, and real differences in the consumption levels.

Deferred taxes attempts to secure proper matching of costs and revenues and thereby destroys information about current tax payments. Conventional absorption costing in an attempt to secure proper matching destroys information about production inputs and outputs since cost of goods sold and inventory become dependent on both the level of production and of sales.

The loss of information due to aggregation also holds for the balance sheet. Necessarily, every balance sheet account is an aggregation of two or more types of events (the events recorded on the debit and credit sides of the account). Very often the events so aggregated vary greatly in type, measureability and variability and therefore destroy much information about specific events. For instance, if current costs or values are used, acquisition and consumption activities as well as environmental changes are combined and the reconstructibility of each specific event is impaired. Acquisitions and amortizations or acquisitions and dispositions are events differing widely in possible measurement error. By combining them in asset and liability accounts information about each is destroyed.

As already indicated, income and capital valuations are attempts to deal with lags between cash outflows and cash inflows. These appear to be unnecessarily crude and primitive given current advances in methodology and measurement technique. The presentation of less aggregated data suggested by the "events" approach might stimulate investigation of more complicated but more useful lag and forecast models that could vary for different industries, firms, time periods, or individuals.

Some Consequences of an Events Approach

This is not the proper medium in which to describe some possible long-range consequences of the "events" approach. In a subsequent manuscript, I intend to speculate on the type of accounting reports appropriate to this approach. Even under the existing accounting framework there are several implications of "events" theory which might help to explain this point of view.

The Balance Sheet

It is currently the fashion to say that the balance sheet or position statement has lost most, if not all, of its significance. But not for event theorists. We view the balance sheet not as a value statement nor as a statement of financial position but rather as an indirect communication of all accounting events that have occurred since the inception of the accounting unit. This indirect communication is provided by summing the effect of all events on the names used in describing these events and then recording the subsequent balances. Inventory, thus, does not report either value or costs but rather describes the acquisition and consumption activities that have occurred. This view has several advantages. It does not purport to report something that is not achieved (i.e., value) and it does facilitate the understanding and analysis of what is

described. If the inventory figure, for instance, is visualized as a representation of the inventory, under value theory the accountant must somehow rationalize the particular costs or value figure that he uses. If historical cost is used, the validity of a representation of inventory that ignores value inevitably crops up. If value is used the argument centers about the justification of this rather than some other value. It is certainly difficult to justify either historical costs or any one representation of value. This difficulty does not create so grave a problem for the "event" theorist. Suppose original cost is used. Under an events notion this means simply that acquisition and consumption events, but not environmental changes, are recorded. Original costs need not be justified. One may certainly deplore the absence of information about environmental events (i.e., value changes) but one accepts information about the events that are described (i.e., acquisition and consumption) and uses them in whatever fashion is appropriate.

An "events" approach to the balance sheet could lead to operational rules about balance sheet construction and presentation. The following represents a possible rule. *A balance sheet should be so constructed as to maximize the reconstructability of the events being aggregated.* Various users may thus generate information about particular events they are interested in. One purpose of the balance sheet is to facilitate the preparation of Funds Statements and like reports that provide information about important events.

The Income Statement

For value theorists the purpose of an income statement quite simply is to report income value or values. Under an "events" approach the purpose of the income statement is to provide direct communication concerning the operating events or activities of the firm. Accounting utilizes two forms of communication: an indirect or effect communication of all events (the Balance Sheet) and direct, specific or event communication of certain critical events (Income Statement, Cash Statement, Production Statement, Funds Statement, etc.). The concern of event theorists is not primarily with the final income figure but rather with describing critical operating activities of a firm. The preferred title would be "Statement of Operating Events." Events theory can suggest an operational rule for income statements. For instance, *each event should be described in a manner facilitating the forecasting of that same event in a future time period given exogenous changes.* The deferred tax question would then be resolved by investigating which quantification more reliably forecasts future tax payments. Both Lifo and Fifo would be rejected because they impede the ability to forecast acquisitions and consumptions of inventory in the future.

The "events" school can justify the present organization of the income statement which reports several sub-aggregates such as sales, cost of sales, etc., because these are considered critical operating events. Perhaps this is one instance when an events orientation has already affected the accounting structure.

The Funds Statement

Value theorists, rigidly faithful to their doctrine, have the most difficulty in justifying this statement. They state rather feebly that " . . . the basic purpose of the Funds Statement is to account for the change in working capital during the period covered by the statement."[7] Such a concept certainly underrates the utility of

[7] Perry Mason, "'Cash Flow' Analysis and The Funds Statement," *Accounting Research Study No. 2* (American Institute of Certified Public Accountants, 1961).

this statement and leads to trivial discussions as to the proper definition of working capital. The "events" school thinks of this statement as "A Statement of Financial and Investment Events." The Working Capital account merely represents a useful technique to organize the events and prepare the statement. The important consideration is whether a financing or investment event is relevant and should be reported, not whether working capital is affected by a given event. This again demonstrates the flexibility of an "events" approach. Different financing or investment events may or may not be relevant for specific firms or at specific times. The content of the Funds Statement thus need not remain invariate for all times or for all firms.

"A Statement of Basic Accounting Theory" and the Events Theory

Most of the recommendations contained in *A Statement of Basic Accounting Theory* flow more logically from an "events" rather than from a "value" orientation. Why are standards or guidelines necessary at all if a "value" approach is adopted? If users' needs are in fact well specified then accounting should provide the values that make the decision models operate optimally. The only relevant standard then would be the ability of the data to perform in the model. There would be no need for values to be verifiable or free from bias if they work well in a specified model. If, however, users' needs are not well specified suggesting an "events" approach, then it is necessary to employ standards that limit the range and define the description of relevant events.

The need for two-column reporting under a "value" approach is not clear. Presumably, the need arises because different columns are useful for different users; that is, historical cost data is useful for the stewardship function and current cost data for the investment function. This rather inadequate rationale has led to the assumption that the historical costs column was only advocated as a stop-gap measure until current value could sweep the day. This was not the intent of the committee.

Multi-column reporting seems eminently compatible with an "events" view of accounting. The two column reports advocated by *ASOBAT* is a step in that direction. As the monograph states, "The historical information reflects market transactions, the current cost information reflects market transactions plus 'unrealized' market influences, and the difference shows the effect of unrealized environmental influences."[8] Since the historical cost column includes descriptions of events other than market transactions (i.e., depreciation, amortization, and other significant accruals) and because market transactions and environmental changes are not the only events that have relevance to the firm, the two columns advocated do not go far enough, but they represent a start.

Separate events should be reported in separate columns because (1) they vary in measurability, (2) they vary in controllability, and (3) they vary in importance from period to period. There is no question that market transactions and environmental changes, for instance, vary in measurability. Market transactions can be relatively satisfactorily described by single numbered quantifications (with relatively little measurement error). There is apt to be little variance around that single number. The same, however, cannot be said about environmental changes or forecasts where description by ranges or distributions could be more appropriate and where measurement errors could be material. As long as a single column is used there will be a tendency to continue to

[8] American Accounting Association. *op. cit.*, p. 31.

measure events by a single measurement process which is inappropriate for certain types of events and we shall continue to be faced with troubles in assessing measurement biases or errors.

These events also vary in controllability by the managers of a firm. Clearly, market transactions are more controllable than environmental changes but less controllable than conversions. If accounting reports are to be useful in evaluating management then a separation of events by controllability should help in fulfilling this objective.

Finally, the importance of the different classes of events may vary from period to period. An investor may predict a period of stability where certain environmental changes are expected to be minimal and in order to forecast adequately from accounting data he must then be able to separate the effect of environmental changes from market transactions. This he can do in multi-column reporting. As the importance of different types of events vary, users, according to their estimate of the future, can attach different weights to the different types of events.

At first blush multi-column reporting seems a drastic departure from current practices—but is it really? Presently we use multi-row reporting. We break down the income statement into many sub-aggregates such as sales, cost of sales, S&A expenses, taxes, etc. We break down the balance sheet into many rows by classes of equities and assets. Very little research has been done as to what explains the current level of sub-aggregation and extreme proponents of the "value" school would have a hard time rationalizing the present format of the income statement. Presently the income statement is organized around a functional event structure, and the balance sheet around a functional effect structure. Multi-column reporting would add a "source of events" classification to both reports and instead of accounting reports consisting of a 7 by 1 matrix they would consist of a 7 by 5 matrix. This move from one matrix to another does not seem that revolutionary, and would be facilitated by an events approach.

Conclusion

Admittedly, the above represents only a rough and underdeveloped first approach toward a new orientation for accounting theory. Why, then, is it presented here and now? Only in the hope of encouraging the research activities suggested by this approach and also in the further hope that it might stimulate a reexamination of some essential if rarely expressed implicit tenets of present accounting thought. The areas of possible reseach opportunities indicated by an events approach are many. The following represent a few:

(1) Test whether line by line predictions of events, i.e., the prediction of sales, cost of sales, etc., are more efficient in explaining the future value of a firm than the use of more aggregated figures such as income.
(2) Investigate the present format of accounting reports to see how useful these formats could be, i.e., to what extent do the various subcategories of the income statement and balance sheet covary? To what extent do they provide additional information?
(3) Attempt to develop more sophisticated models to explain the lag between cash outflows and cash inflows, i.e., utilizing fund statements, production statements, and others in an attempt to predict cash flows.
(4) Investigate the information loss due to the aggregations presently used by accountants. How much informa-

tion is lost by aggregating and combining events to produce one income figure or to produce the different balance sheet amounts? A subsequent extension of this would be an investigation of the information loss due to expressing all economic activities in dollar terms.

(5) Construct useful accounting reports based on an events approach.

Ultimately this paper will find its justification if what is presented here as the conclusion will serve as an introduction to the research activities and the reexamination advocated.