Several articles about Dutch replacement value accounting and written by Dutch accountants have appeared in English language academic journals in recent years. The authors of these articles usually imply that Dutch accounting is highly rationalized and is entirely consonant with its economic and social environment; and that, as a consequence, it provides services to companies and to society which are not conferred to the same degree by accounting elsewhere.

Van Seventer, for example, comments in a recent issue of The International Journal of Accounting Education and Research that „The accomplishments in the Netherlands, specifically in income accounting theory, during the last forty-five years have proved that a systematic body of accounting theory, consistent with and specialized from economics, can be developed.”

The descriptions provided by Dutch accountants are consistent with respect to the discipline of business economics serving as the basis for Dutch accounting and about the merits of their approach to accounting. Considering this, more thorough and widespread consideration of Dutch accounting by American scholars than has occurred in the past seems warranted.

It is possible that the general lack of interest in and enthusiasm for Dutch accounting outside of the Netherlands is in major part because the business economics based Dutch accounting is so fundamentally different from other accounting that its full implications for the business community and society are not readily apparent. It is the purpose of this article to present the business economics approach to accounting as used by the Dutch and described by Dutch accountants, and to explore the aforementioned implications.

Dutch accounting - a summary
To contrast Dutch accounting more sharply with our own it is useful to...
begin with a brief summarization of what Dutch accountants consider to be the important characteristics of their accounting. Dutch authors portray their accounting as a composite of several characteristics. The most important, and one which appears to have greatly influenced all facets of Dutch accounting, is that the principles of business economics are developed and interpreted by Dutch accountants as practical guides for accounting and auditing. Purportedly, accounting and financial reporting practices are therefore unfettered by accounting conventions and are constrained only by the principles of business economics and by the Dutch auditors' role in seeing that these principles are considered. The Dutch consider that use of replacement values derives from interpretation of the principles of business economics.

The principles of business economics as a foundation for Dutch accounting also appear to account for another attribute - the apparent existence of a conceptual and practical rapport among the three major functions of Dutch accountants. Perhaps to a greater extent than elsewhere these three functions of external reporting and auditing, internal reporting, and business advisory services appear to have achieved rapport and to have developed with about equal emphasis on each.

Another important characteristic is that Dutch accountants evidence a strong aversion to taxation as a determinant of accounting practice. As elsewhere Dutch fiscal authorities pay scant heed to accounting theory and to the probable impact of tax legislation on accounting practice. However, Dutch accountants have been persuasive in convincing companies that theoretically sound accounting practices should prevail over tax-influenced accounting practices, and tax accounting practices therefore are not incorporated into the formal business records if in conflict with accounting theory. Perhaps partly as a result the Netherlands business community considers the accounting function to provide extremely useful information on which to base operating decisions.

In combination the characteristics outlined in the preceding paragraphs define an accounting structure and philosophy quite different from those extant elsewhere around the globe. Accounting in the United States, Canada, and most other nations, for example, is based more on actual business practices than on business economics, and accounting practice is highly constrained by "generally accepted accounting principles," which include the historical cost principle. Again, in virtually all nations except the Netherlands tax laws have a strong direct or indirect influence on accounting practice. In other respects also, as will be seen, the Dutch consider their business economics based accounting to be different from and not inferior to that of other nations.

The years of development
The unique nature of the Dutch approach, which exists in a free-enterprise economic environment not essentially unlike our own, appears to be attributable to two major factors. The first is that Dutch accounting development
has been primarily insular. Although the Netherlands Institute of Accountants (established in 1895) initially adopted with few changes the regulations of the Institute of Chartered Accountants in England and Wales, Dutch accounting has since been largely influenced by events and circumstances within the Netherlands.

The particular accounting philosophy which germinated in the Netherlands has been the other major influence on Dutch accounting. In fact the present circumstances of Dutch accounting appear to be in major part attributable to the ideas and philosophy of one accountant-educator, the late Professor Theodore Limperg.3)

Limperg began his accounting career as a 21 year old auditor in 1901, and pursued what today might be considered a "systems" approach to accounting. That is, he was concerned not only with individual aspects of accounting, but also with ensuring that each aspect of accounting was conceptually linked and integrated with all other aspects as well as with the entire economic and social fabric of the Netherlands. Limperg's theory encompassed not only financial reporting and auditing, but also management information needs and the relationship of company accounting to regulation of the national economy.

With respect to auditing, Limperg was an early proponent of expanding audit scope far beyond what was usually a half-century ago. Limperg also believed in strict regulation of auditor proficiency and conduct and strict auditor independence so as to create confidence in audited statements, and he was instrumental in seeing that this view prevailed among his colleagues at an early stage in the Dutch profession's development. Additionally, at his urging the profession began providing extensive advisory services to management in order to increase demand for audit services.

Limperg was also an early proponent of current value measurements for external reporting and as a basis for management policy-making. He was convinced that the interests of investors and society necessitated auditors' satisfying themselves that company financial statements indicated the position and performance of companies in current rather than historical cost terms. Limperg also considered that accounting in terms of historical costs was responsible, at least in some measure, for the severity of economic cycles. He argued that during inflationary periods the exaggerated profits shown by historical cost accounting made credit for expansion too readily available, which resulted in increased over-investment and inflation perpetuation.

Limperg's views on accounting did not immediately prevail, however. His forceful pursuit of the goals of broadening the functions of auditing and using current values in accounting caused conflict with other leaders of the

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3) Much of the following biographical information about Professor Dr. Theodore Limperg is from "Theodore Limperg and His Theory of Values and Costs", (Abacus, September 1966) by Professor Dr. Abram Mey. This writer gratefully acknowledges information provided by correspondence with Professor Dr. Mey and used throughout this article. From 1949 to 1961 Professor Dr. Mey occupied the Chair of Professor of Managerial Economics at the University of Amsterdam as successor to Professor Dr. Limperg.
Netherlands Institute of Accountants. Limperg and loyal associates (many of whom were his former pupils) left that organization to establish the rival Netherlands Accountants Association. Limperg’s influence grew and in 1918 the two organizations merged with Limpergean ideas setting the conceptual pattern for the reorganized Netherlands Institute of Accountants. Limperg’s influence is still pervasive in accounting in the Netherlands. That Dutch accounting theory seems to have few theoretical inconsistencies is generally acknowledged to be in large measure the result of his efforts.

**Business economics as a foundation for accounting**

The principles of business economics serve as the foundation for Dutch accounting. As Van Seventer states this, „It is a fundamental premise of the ‘Amsterdam School’ that the study of accounting should be integrated with the body of economic knowledge and methodology.”

However, the business economics on which Dutch accounting is based is not directly comparable to any discipline existing elsewhere. Attuned closely to the practical world of business and management, the Dutch version of business economics is an integration of empirical micro and macro economic observations with economic theory.

From a macro orientation the Dutch discipline examines the practical implications to a firm of its place in the entire economic and social fabric. The discipline also considers the effect of the actions of individual firms on the economy at various stages of the economic cycle, and on consumers and other members of society.

In a micro context Dutch business economics explores the relationships between technical and economic processes to find the effects of the acts of an organization on its costs and revenues. As Van Seventer suggests, „The purchase of an asset, the sale of inventory items, the borrowing of money, and the act of technical production all carry a cause in the past and an implication for the future.” The discipline then considers the measurement procedures necessary to evaluate the efficiency of management and to properly portray the results of the technical and economic process relationships.

Business economics in the Netherlands is a composite of several branches of economic theory. One is the theory of cost and value under which costs are considered to be the required and unavoidable sacrifices in the production of products. Sacrifices measured in physical terms and stated at replacement value generally constitute the value of product to the manufacturer. Expenditures for unnecessary or wasted resources (including excess capacity) are not unavoidable costs and so have no value. Since, unlike American accountants, Dutch accountants consider themselves to be valuers, rather than chroniclers of historical costs, they must undertake rigorous training in cost and value theory.

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4) A. Van Seventer, op. cit., p. 4.
5) Ibid., p. 8.
6) Ibid., pp. 7-10.
Related to cost and value theory in Dutch business economics is the theory of costs and returns which involves measurement of the economic efficiency of a firm by comparing the necessary sacrifices at each production center with the economic returns to that center. This comparison is considered useful to management and also provides the framework for external reporting in the Netherlands.

Another branch of the theory considers capital needs of organizations and relates internal characteristics of firms to circumstances of the market environment in which firms operate. This branch is concerned with the means available to firms to replenish or expand their financial capital and considers the relationship of financing activity to economic fluctuations.

Also central to the business economics approach is organization theory, dealing with the flows of human and other resources merging to produce differentiated products. The Dutch consider that industrial and administrative efficiency is explicable only in terms of the recognition and rationalization of these flows.

Dutch replacement value accounting
The tenets of business economics have long held sway in Holland as the major influence on their accounting. Since economics is greatly concerned with valuation and income problems, it is natural that the attention of accountants in the Netherlands has come increasingly to concentrate on the question of whether or not conventional accounting methods of valuation and profit determination provide proper insight into the status of a business enterprise. From a premise of business economics, the Dutch consider that the answer can only be that current values (generally replacement values) provide more appropriate measures of financial position, income, and rates of return than does historical cost accounting.7)

Replacement Value Theory
Use of replacement values is a logical outgrowth of Dutch accountants' business economics orientation. The effect of a business economics orientation in accounting is maintenance of invested capital in real as opposed to nominal (monetary) terms.8) Maintenance of invested capital is considered necessary to ensure continuity of production, to assure creditors' protection, and to properly evaluate and report the success and efficiency of firms' operations.

Primarily because of the economic phenomenon of changing prices (in general as well as for specific assets), the recording of transactions occurring between the firm and outsiders as well as within the firm at current values is requisite to evaluation of the extent of the maintenance of real capital. The

8) Van Seventer (op. cit., p. 11) notes that this is not the emphasis of Limperg's theory, but that Limperg's theory is consistent with the maintenance of capital.
use of replacement values to evaluate the real increase or decrease of capital is a process which may be characterized as follows. Assets are periodically restated to what the Dutch consider to be a proper value, that of the quantity of each of the resources composing the asset multiplied by its per-unit current replacement value. In theory these assets include all fixed assets, finished inventory, and work in process, although, as will later be seen, practice does not in all cases conform to theory.

Adjustments corresponding to asset restatements are to the capital accounts, rather than to retained earnings where they would be construed as holding gains or losses. Dutch replacement value accounting does not encompass the concept of holding gains in inventories or other assets, a concept accepted by many theoretical accountants and perhaps argued most persuasively by Edwards and Bell. Instead, if assets have remaining productive value or must be replaced in kind or in productive or service capacity in order to continue operations (as is the normal case), then the increased value of the asset held over time is not considered to be a gain but rather to be an adjustment to the capital account to reflect the increased amount of capital now necessary to maintain operations at their present level. In Dutch theory this is so whether the market value change is attributable to general price changes, or to a change in the value of the specific asset relative to other goods and services.

After having restated assets (and, in consequence, the capital account), the restated value of the assets consumed in the securing of revenue of the period is set against that revenue. This use of replacement values for income determination permits calculation of an approximation of "economic income"; that is, an income that business economics theory considers to be the most acceptable surrogate for the unmeasurable economic income ideal derived from the concept of the present value of the future cash flows of the firm's resources. That use of replacement values is thought to be the most acceptable of the income determination alternatives stems from their use providing a reasonable approximation of economic income as well as from replacement values having the property of usually being amenable to reasonably objective measurement. The use of replacement values ensures that current costs (including depreciation, which is restated to a current cost basis) are matched to current revenues in the determination of income.

In the articulation of the financial statements income so determined increments (decrements) total capital as an increase (decrease) of retained earnings. This completes the adjustment of the capital and retained earnings

9) Some writers sympathetic to current values question the propriety of stating assets at their replacement value, which is an "entrance value". For example, Chambers advocates "cash equivalents", which are "exit values" in the nature of market resale prices. Raymond J. Chambers, Accounting, Evaluation and Economic Behaviour, (Englewood Cliffs: Prentice-Hall, Inc., 1966).


11) For accounting purposes, Dutch economic income is "The income which may be spent without trespassing on the capital of the business, which is the source of income." A. Goudeket, "Fluctuating Price Levels in Relation to Accounts," Proceedings of the Sixth International Congress of Accountants, London, 1952, p. 74.
accounts to a current basis and permits evaluation of whether the capital of the company has been maintained, increased, or eroded. Further, the elements of total capital change have been separated to indicate the portion of change required to provide for the continuance of the enterprise at its present level of operations (capital maintenance), and the portion which represents the change brought about from successful or unsuccessful operations. Managers and owners are then in a position to predicate their resource allocations and other decisions on more informed analyses. Also, directors of the company are more fully aware of the implications of dividend decisions for long-run operations and are in a position to make prudent analyses of the propriety of distributions of this nature.

The benefits conferred by replacement value accounting can be seen to include not only a more proper determination of income and valuation of assets and capital, but also to extend to the many evaluative techniques utilizing relationships which include one or more of these factors. As one example, a commonly used measure of operating efficiency and success is the return on total resources employed in the generation of revenues. This return is determined by finding the percentage of income to total resources. During periods of rising prices conventional accounting severely distorts this calculation because income (the numerator) is overstated to the extent that older and lower costs are not indicative of the actual sacrifices (the current cost of goods) made to generate current revenues, and the asset base (denominator) is understated by being stated at the lower historical costs. The net effect can be gross exaggeration of return on productive resources but, because of the interaction of the several variables (e.g., the relative proportions of very old and almost-current costs) the extent of this exaggeration in a given case is far from being intuitively obvious. It is fair to say that, whatever the extent of exaggeration, it promotes widespread misunderstanding of profitability, and that this misunderstanding has both social and economic consequences.

Further problems are caused if assets in different segments of a firm are acquired at different points in time or if assets of the entire firm are acquired at a different time than are assets of another firm. To the extent that this occurs comparability of profitability and operating efficiency, if determined according to conventional historical cost methods, is made difficult. This may cause unwise allocation by management of resources within a firm or by investors of their resources between firms. Managers, owners, and other interested parties are not only unable quantitatively to assess the extent and effects of this non-comparability but may also in varying degrees be unaware of the lack of comparability. They may therefore be unable to make even subjective adjustments to compensate for the lack of objective comparability resulting from conventional accounting.

The Dutch consider that operating efficiency is properly measured and comparability within and between firms is achieved by comparing net income computed on a replacement value basis with the total replacement value of resources employed in the generation of that income. This is because, to the Dutch, the best determination of the value of resources sacri-
ficed as well as the value of total resources employed in the generation of revenues is their replacement value.

Replacement Values in Practice
Dutch accounting is unusual in that replacement values are commonly used in practice. However, Dutch accounting is unique in that the use of replacement values is considered to be the most acceptable accounting practice for external reporting and are readily attested to by Dutch auditors. Although replacement and other current values are occasionally encountered in other nations for internal and external reporting, it is only in the Netherlands that current value statements are encouraged even in periods of negligible inflation, and attestation of these statements is routine. Furthermore, it is only in Dutch companies that current value adjustments are recorded in the detailed accounts to provide information for management at all levels, instead of having only the final, company-wide financial statements adjusted.

By no means have all Dutch firms adopted current value accounting and reporting practices. But many Dutch firms (and particularly the larger firms) do use current values for both financial and managerial reporting. There are also many Dutch firms which apply current values to only some categories of their accounts. In general the smaller the firm the less likely that is will use current values throughout. It can be ventured that, although replacement values probably are not presently used by the majority of the medium and large size Dutch companies, there is the likelihood that this will eventually be the case, since „replacement value theory ... is now accepted by the majority of the theorists and practicing accountants in the Netherlands.” Dutch firms using replacement values do so even for periods when the general price level does not change, since prices of specific assets still vary.

In their application of replacement value theory, Dutch firms take the very pragmatic approach of substituting an estimate of replacement value if replacement value is not readily ascertainable. Values determined by specific price indexes are most frequently substituted, and individual firms often devise their own price indexes or other measurement techniques on an ad hoc basis after consultation with their auditors.

External reporting in the Netherlands
Dutch firms, at least the larger ones, are regarded as among the most progres-

12) Appendices D and E of Accounting Research Study No. 6: Reporting the Financial Effects of Price Level Changes (by the Staff of the American Institute of CPAs; New York: AICPA 1963) examine several cases involving adjustments of financial statements for price changes.
14) A. van Seventer, op. cit. p. 2.
sive in external financial reporting. The Dutch public accounting profession takes credit for having been very effective in showing Dutch companies the advantages which accrue to thorough, painstaking, and realistic public disclosure of financial affairs.

Dutch auditors and accountants appear to have created a pervasive, positive attitude toward accounting among all elements of the business community. They have convinced businessmen that accounting is a key to sound management as well as to sound investment. It was in this positive spirit that a Committee of the Netherlands Employers' Association met in 1955 to establish recommended concepts and standards for external reporting. Van Vlerken summarizes the most important of these:

1. "Income must be specified so that return on capital can be assembled,
2. Assets and liabilities must be specified so that insight is obtained into solvency and liquidity,
3. Bases for valuation and income determination must be stated, as well as changes thereto and their effects, and
4. Replacement value accounting is strongly recommended."

The Committee which drew up these standards consisted of entrepreneurs, stock exchange experts, bankers, financial journalists and auditors. This report and a 1963 revision have influenced present accounting in the Netherlands even though there is no effective machinery to ensure compliance with the recommendations of the report.

Legislation relating to financial reporting in Holland has always been permissive, even bordering on the non-existent. One result of the minimal legal regulation of accounting in the Netherlands is that even though the best of external reporting is very good indeed, not all firms publishing financial statements follow accounting practices which would meet legally prescribed minima for firms in comparable situations in America. Van Amerongen has commented that "Freedom is good for the strong, and in Dutch accounting they have come a long way..." but that for the "weaker brethren" some sort of legal regulation of accounting would be helpful.17)

**Reporting Principles**

The Dutch auditing profession has emphasized that accounting and external reporting be based on the principles of business economics which have been outlined in preceding sections of this article. The Dutch appear to have no concept that is analogous to "generally accepted accounting principles", for there are almost no binding Dutch accounting conventions other than those of double-entry and accrual accounting. The Dutch lack of accounting conventions constitutes one of the fundamental differences between their accounting and reporting and that extant in other highly developed nations.

Dutch accountants' primary objective is to portray the economic significance of events. Since strictly defined "rules" analogous to generally accepted accounting principles, are not used, any portrayal is proper if it reflects

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the economic sense of events. There is an infinity of different economic events, and so there is also considerable diversity of Dutch reporting practices. The educational requirements for Dutch accountants and auditors, which appear to lay heavy stress on training in economic theory, seem designed to impart to these persons the judgment necessary to select the accounting procedure appropriate to the circumstances.

**Differences of Principles**

It is interesting to compare Dutch and American accounting principles in certain respects and to consider the possible effects of differences on financial reporting and on the receptivity of American accountants to replacement value accounting. A fundamental difference in application between the American and Dutch approaches to accounting may be inherent in the fact that the exercise of judgment on the part of American accountants is sometimes limited to the selection of one of perhaps several alternative "generally accepted accounting principles." These principles need not be grounded in business economics; some accounting principles, such as LIFO for example, are generally accepted because they effect income tax savings. To the extent that accountants sense accounting conventions to be only arbitrary rules with no economic rationale, they are probably the more inclined to permit the adoption of whichever accounting alternative portrays the most favorable results, irrespective of the true economic circumstances.

The Dutch however claim to test their judgment against the substantive principles of business economics and so attempt realistically to portray economic events and status. Dutch accountants insist that the multiplicity of permissible practices does not give them license to choose capriciously, but that instead they are professionally committed to search for or even devise an appropriate accounting practice for a particular transaction or situation. Theoretically this means that Dutch accounting is continually in evolution because accountants are continually recommitted to analysis of changing circumstances.

An apparent by-product of Dutch attempts to accurately portray economic reality is that Dutch accountants have effected a nearly complete separation of business accounting and tax accounting. Van Amerongen notes that in the Netherlands "at an early stage accounting . . . did not let its development be hampered by the rules laid down by the tax authorities for the calculation of fiscal profit or loss."18) This expurgation of tax rules from business accounting undoubtedly contributes to the utility of accounting for economic decision-making.19)

To understand Dutch accounting and financial reporting it is necessary to realize that, even though the use of replacement values is increasingly being

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19) Solomons reminds us that "many (American) companies are paying a substantial, though concealed, price for tax savings when, in pursuit of these savings, they adopt accounting methods which do not serve the needs of management and may even positively mislead it." David Solomons, *Divisional Performance: Measurement and Control*, (Homewood, Ill.: Richard D. Irwin, Inc., 1965) p. x.
accepted by the Dutch as the major tenet of their accounting, replacement values are in fact the result of an approach to accounting which rests solidly on business economics. The failure to see that it is from within a context of business economics that replacement values are logical provides an important indication of why American practicing accountants are generally not enthusiastic about replacement value accounting. American accountants do not view business economics and replacement values as a possible substitute for generally accepted accounting principles. Rather, American accountants view replacement values as possibly an additional generally accepted accounting principle. In this context replacement-values seem inconsistent and incompatible with many present accounting principles and with much of the framework of American accounting.

In fact, American accountants' inclination to view accounting as a separate discipline only casually related to economics probably accounts for our tendency to be more favorably disposed toward adjustments for general rather than specific price level changes. General price level adjustments update historical costs (which are a part of our accounting heritage) while replacement values (specific price level indices) constitute valuation and therefore are completely alien to the heritage of American accountants.

**Internal reporting**

Internal reporting is well developed in large Dutch firms. The Dutch approach to internal reporting is also conditioned by and predicated on business economics, for Breek tells us that: "... the same economic principles should be applied in external as in internal accounting." Business economics thus provides a conceptual link between internal and external reporting that has not been developed to the same degree in other nations.

One of the practical implications of this link is that the education and training of accountants for companies and for auditing has long been essentially the same in the Netherlands. Another is that replacement values are as widely used for internal as for external accounting. Goudeket has noted that with internal use of replacement values at all levels in Philips Gloeilampen-fabrieken "a more appropriate basis for policy decisions is created and that is of tremendous value."

**Management advisory services by auditors**

Since Limperg's ideas on auditing gained in credence in the first quarter of this century, provision of advisory services to management has been one of the major functions of Dutch auditors. Never since have auditors thought

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themselves to be ethically restrained from this activity. Because their responsibility has been so broadly defined as to include advisory services to management, Dutch auditors have entirely avoided the unfortunate circumstance of American auditors who only in recent years have begun to provide extensive advisory services to clients.

Advisory services provided as a normal part of an audit apparently still tend to be broader in some respects in the Netherlands than in the United States. In addition to consulting on normal problems of business operation, Dutch auditors are expected to exercise a controlling function on behalf of management -- a function of assuring management that data on which management bases decisions are accurate and, at the same time, of verifying that management's policies have in fact been carried out.

Parenthetically, it is interesting that at a time when the professions of other nations are newly expanding into management consulting, there are indications that Dutch public accountants are beginning to delegate detailed tax consulting work to "independent tax consultants who usually are not qualified accountants and whose training has been entirely different." This development is probably to be expected, since emphasis in the training of Dutch auditors is increasingly on business economics, which has little relevance to taxation because tax laws are based on fiscal and social needs rather than business economics.

Auditors in the Netherlands are expected to be well-versed in management techniques. Business economics is a discipline essential for the development of these techniques as well as for other skills necessary for business advising. Since business economics is also the foundation for internal and external reporting there is therefore a high degree of overlap between the training necessary for these functions, for auditing, and for business advising. It seems a happy circumstance for the Dutch that the discipline of business economics appears to serve to unify and integrate all of the accounting functions in the Netherlands as well as to integrate these functions into their micro and macro economic environment.

Conclusions
To attempt a definitive evaluation of the Dutch experience with business economics as the foundation for accounting on the basis of the limited information currently available in the English language would not be appropriate. Instead, this article has attempted to summarize the business economics approach to accounting and to set forth the distinctive aspects of Dutch accounting as seen by Dutch accountants. This portrayal is attempted primarily by synthesizing the published views of Dutch authors.

Dutch accounting is likely to remain something of an enigma to American accountants. Yet a coherent picture is beginning to emerge, and there is reason to believe that the replacement value accounting which many think to be the only distinctive characteristic of Dutch accounting is but one mani-


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festation of an impressively different organization of accounting. The Dutch, by using business economics as a foundation, appear to have developed a cohesive and completely integrated accounting philosophy and structure which is entirely at ease in its business and social environment, and within which replacement values constitute a natural and logical means of economic valuation.

There remain many unanswered questions about accounting in the Netherlands, particularly with respect to application of replacement values and the extent to which alleged benefits of business economics accounting are actually realized in practice. These, as well as other intriguing questions certainly warrant additional attention to Dutch accounting on the part of American accounting practitioners and scholars.