Administration

BUSINESS ACCOUNTING

HAROLD DUDLEY GREELEY, C.P.A., *Editor*

Volume I—Theory of Accounts
By Harold Dudley Greeley

II—Constructive Accounting
By George E. Bennett

III—Cost Accounting
By DeWitt Carl Eggleston

IV—Advanced and Analytical Accounting
By Henry C. Cox

V—Illustrative Accounting Problems
By Charles F. Rittenhouse and Harold Dudley Greeley

Business Accounting

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VOLUME IV

ADVANCED AND ANALYTICAL ACCOUNTING

By

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EDITORIAL PREFACE

Ten years ago almost any contribution to the literature of accountancy would have been welcomed. Today, however, with the increasing number of excellent publications, it is incumbent upon one who puts forth a new accounting work to justify his action. Much more is it necessary to explain the publication of a set of accounting books. Hence it is desirable to state at the outset the purpose of "Business Accounting" and to outline its scope and general methods of presentation.

While many books have been published on accounting topics, in almost every case they are unrelated volumes. In some few instances, a volume on accounting has logically followed another by the same author, but with these few exceptions every one published has been written without connection with, or adjustment to, any of those already existing. Under these conditions, the student of accounting, to get any connected and logical knowledge of his subject, must find one of his books here, another there, a third somewhere else, and bridge over the gaps between them as best he may. The process is difficult, and the accounting knowledge he obtains is not always well co-ordinated and logically developed.

The volumes of "Business Accounting" are intended to meet this situation. They cannot, it is true, provide a course of study in the sense that prescribed readings are recommended, written answers to questions required, and personal instruction given. Neither do they constitute an encyclopaedia of unconnected and isolated articles. Rather are they an attempt to present in simple, non-technical language the basic principles of account-keeping and their application to various lines of business, together with general directions for preparing, analyzing, and interpreting accounting statements.

One who starts at the beginning of Volume I and works faithfully through to the end of Volume IV, and then solves the problems and examines the solutions of Volume V, should acquire some real understanding of the theory and practice of accounts—a knowledge that, supplemented by experience, should enable him successfully to stand the test of practical work in any ordinary business office and furnish a foundation for going as much further into the study of accountancy as he may desire.

It may be noted in passing that the volumes of "Business Accounting" have been indexed in such a way as to provide many of the features of an encyclopaedia, so that the person desiring the practice on a particular point or accounting ideas of suggestive value in particular lines of industry will be able to use the set to advantage.

Taking up the volumes of the set in order—Volume I presents the fundamental principles of account-keeping and statement preparation. Upon these basic principles all systems of account are built. Volume II explains the principles governing the development of the simple accounting procedures described in Volume I to meet the needs of more complicated and more extensive systems of financial accounting. Volume III explains in much the same way how the basic principles have been applied to factory or cost accounting. Having thus traced the fundamental principles into more elaborate financial and cost accounting procedures, Volume IV treats accounting principles and practices which are more advanced than the basic ones described in Volume I. These advanced principles are in most cases subject to differences of opinion, as to their nature or application, among persons qualified to deal with them, and it is for this reason that their discussion is confined to Volume IV. Supplementing the illustrations of accounting principles and statement preparation, there follows in Volume IV a practical discussion of the methods of verifying accounts and statements and of their interpretation and analysis.

The set closes with Volume V, which gives a number of problems of a practical nature, together with their solutions. The working of these problems will not only clarify the reader's ideas but in many cases will provide models upon which he can base accounting procedures and build statements to meet concrete situations arising in his own work.

The readers to whom this set will appeal most strongly may be divided roughly into two classes. There will be, on the one hand, business and professional men, bankers, office managers, and other executives who feel the need of understanding in a general way the methods of modern account-keeping and statement preparation. There can hardly be excuse nowadays for them to consider bookkeeping methods and accounting statements as too complicated to understand or of such slight importance as to merit no attention. They need a grasp of the subject so that they may judge for themselves whether bookkeepers and other persons who keep accounts for them and render statements to them are giving information which is accurate, adequate, and presented in the most intelligible form. The entire tendency of modern business and civic life is toward more exact accounting, of which the accounting requirements of the present income tax legislation are but one indication. Any person having substantial interests at stake should be able to appraise intelligently the stewardship of those to whom his interests are intrusted and the volumes of "Business Accounting" will give him the technical information this demands.

The other class of persons to whom "Business Accounting" will appeal is composed of those whose duty it is to keep accounts and to prepare statements. They should find in this set an inspiration and an aid to more intensive study, which in turn will result in improved accounting ability and an enhanced wage. The careful and intelligent use of these books will lead beyond question to increased power of service to employer and community.

HAROLD DUDLEY GREELEY,
Editor, Business Accounting Set.

New York City,
April 1, 1920

PREFACE

The present volume is the fourth of a series of five volumes on accounting. It therefore necessarily differs from an independent volume on advanced accounting, inasmuch as it is not a complete treatise in itself. It does, however, give the reader who has covered the development of the subject of accounting in the three preceding volumes or in other equivalent volumes a systematic and connected presentation of the subject to a point well beyond the elementary and up to and through an advanced stage of accountancy.

Following the presentation of accounting theory and bookkeeping technique which is given in the three preceding volumes, it is hoped that this book will find some favor in its attempt to develop these subjects to the more advanced phases. In addition, it takes up some matters which are not touched upon in the preceding volumes. Among these latter will be found a somewhat detailed consideration of the highly technical subject of consolidated balance sheets, to which three chapters are devoted. A number of chapters contain illustrative bookkeeping entries covering the transactions peculiar to corporation accounting, such as those involving capital stock, surplus, dividends, and sinking funds.

The author trusts that the book will find its place in accounting literature, and that it will prove helpful.

HENRY C. COX

Bridgeport, Conn.,
April 1, 1920.

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Advanced and Analytical Accounting

Part I

Adjusting and Closing Problems

CHAPTER I

THE SCOPE OF ADVANCED ACCOUNTING

1. Elementary and Advanced Accounting

Though there is no clear line of demarcation between elementary and advanced accounting, it may be broadly stated that the difference between the two lies in the complexity of the transactions to be recorded. As explained in Volume I, the elementary phase of accounting work comprised under the term "bookkeeping" deals with the recording on the books of entries relating to money values; "advanced accounting" is concerned with the summarizing and presenting of these entries in condensed form; and "auditing" is the term applied to the work of verifying the accuracy of the records.

In a small mercantile business in which the records are comparatively simple, few of the problems of advanced accounting would be met. All that would be required in such a case is that the work of the bookkeeper be checked from time to time by a qualified auditor so as to insure the accuracy of the final statements. As a business grows, many accounting problems arise, the solution of which requires a knowledge of principles and procedure not ordinarily possessed by the bookkeeper who is wholly occupied with the recording of routine transactions. These problems and the principles and procedure upon which their correct solution is based are taken up in Parts I to IV of this volume. Part V is devoted to a discussion of methods of verifying the correctness of the entries so far as it is practicable for the bookkeeper or the proprietor of a business to carry out the work of investigation without calling upon the resources of the trained auditor.

2. Problems of Advanced Accounting

The accounting work to which the term "advanced" might be properly applied, would cover such phases of accounting as:

1. The handling of adjusting and closing entries.
2. The valuation of assets and the verification of liabilities.
3. The treatment of profits and dividends, and the nature of surplus and reserves.
4. The recording of transactions in bonds and shares of stock in such a way as to show their correct value at all times.
5. The computing of annuities and the operation of sinking funds.
6. The preparation of financial statements.

Brief consideration will here be given to the nature of the above problems, reserving detailed discussion for the chapters devoted to these different phases of accounting work.

3. Adjusting Entries

The customary practice of the small business is to treat all items of expense and income as applicable to the accounting period in which the expense is paid or recorded or the income received. This method of treatment has the advantage of simplicity in that it eliminates the adjusting entries required for the purpose of making the account reflect the true expense and income of the period. If the business transactions are much the same in character and amount from one year to another, and if the accounting terms under review cover a year's operations, the neglect to take up on the books any accrued items of expense and income or to defer to later periods when necessary a proper proportion of the prepaid expenses and income, will not, as a rule, seriously affect the accuracy of the final statements.

In a small business the items of income and expense other than those connected with the purchase and sale of merchandise are not usually of sufficient importance to make necessary their adjustment on the score of accuracy when the books are closed. But where items of expense and income are numerous and where they tend, in consequence, to fluctuate in their amount and incidence from one period to another; and where, furthermore, the volume of transactions varies in different months or with the seasons of the year, sound accounting then requires that a fair apportionment of such prepaid items be made over the periods to which they apply; and the same remarks are applicable to the treatment of accrued items. This is especially true when accurate figures of profit and loss are required covering brief periods of time.

It may be noted that the handling of deferred and accrued items is usually a matter of routine bookkeeping and properly should not be included among the advanced accounting problems. In these volumes the matter has been held over for later discussion, because to the student of accounting the subject is one of some perplexity, the difficulties of which may be more readily understood after the simpler but more fundamental principles of bookkeeping have become firmly fixed in mind.

4. Closing Entries

The method of closing the income and expense accounts into Profit and Loss account for the purpose of determining the result of operations during the period under review has been discussed in an elementary way, so far as concerns the bookkeeping alone, in Volume I, Chapter VIII. The more advanced treatment of the subject is taken up in this volume.

This treatment covers the accounting theory on which the correct determination of profits is based; the method of their apportionment among dividends, surplus, and reserves; and the distinction between a reserve which may properly be created out of profits and a reserve which must be treated as a charge to operations before the correct profit figure can be determined.

While the apportionment of the profits of a business is to a great extent a question of financial policy, the method of their disposal, especially if the business be a corporate organization, is circumscribed by both legal rulings and correct accounting procedure. The difficulties of the subject are further increased by the fact that the legal ruling or opinion does not always coincide with the accounting point of view. Therefore the correct treatment of these items requires a clear understanding of (1) the meaning of the terms used; (2) the sources from which dividends, surplus, and reserves may be derived and to which they revert; and (3) the accepted legal rulings under the compulsion of which the management of a corporation must render a true statement of its profits and of the method of their disposal.

Any discussion of the above phases of accounting is so closely related to financial policy that a comprehensive treatment of the subject necessarily involves many matters relating exclusively to the financing of corporations, and which have little or no bearing upon the work of the accountant. In this volume the discussion is confined within accounting limits; thus, only those aspects of the subject are taken up which bear directly upon the entries to be made upon the books and records.

5. The Valuation of Assets and Verification of Liabilities

All closing problems are closely related to the problem of valuing the assets of an enterprise at their proper worth to it viewed as a going concern. In the case of a manufacturing business with a large investment in machinery and equipment, the correct valuation of the fixed assets requires close co-operation between the engineer (or other person qualified by experience to appraise the value of physical property) and the accountant. The expert knowledge of the appraiser is not a necessary part of the accountant's equipment; but a knowledge of (1) the principles upon which all valuations should be based, (2) the method of determining depreciation rates, and (3) the accounting required to record all fluctuations in asset values upon the books, is a very necessary part of the accountant's equipment. Without an understanding of the principles of depreciation, he is compelled to accept as correct whatever valuation the engineer or the management of a business may place upon its fixed assets. The profit (or loss) figure, especially when the books are closed at frequently recurring intervals, may turn upon the accuracy of the appraisal of asset values. Unless the valuation is based upon certain recognized principles and the entries on the books conform with correct accounting procedure, the information they contain may be biased and misleading. The bias may as readily lead to the concealment of a loss and a deficit as to the exaggeration of the prosperity of the enterprise.

The verification of the liabilities presents none of the difficulties encountered in the valuation of assets and reduces itself to a correct statement of their full amount. The amounts owed to creditors can be verified by reference to the records. The only concern of the accountant is to ascertain their total amount, including any contingent liabilities if such have been incurred, and to inform the creditors and proprietors of the business of the existence of these contingencies on the balance sheet prepared for their scrutiny.

6. Bonds and Other Securities

The accounting work in connection with the recording of transactions in bonds, shares of stock, and stock issues requires a small amount of legal knowledge and a complete knowledge of the forms and procedure peculiar to corporate bookkeeping. The special books to be opened and forms to be used are matters which have been taken up in Volume II. In this volume there remain to be explained (1) the procedure of recording dealings in bonds, stock issues, and different kinds of stock, and (2) the method of treating premiums or discounts paid or received. Premiums or discounts on bonds should not be merged in the price received or paid, but should be shown as additions to, or deductions from, the price of the securities. The discussion in this volume is limited to an elementary explanation of the principles on which the accountancy of investment is based.

7. Annuities and Sinking Fund Operations

A study of the accountancy of investment includes the method of computing an annuity and of recording sinking fund investments. The computing of an annuity is a purely mathematical problem by the solution of which are determined the series of equal payments plus the compound interest thereon which are required to produce a given sum at a given rate within a certain period of time. Such mathematics are part of actuarial science, and the calculations, if they are to be readily made, require a knowledge of algebra. For example, the amortization of bond premiums, the accumulation of bond discount, and the figuring of sinking fund payments are actuarial problems which are solved by the use of algebraic formulae. Tables compiled from the solutions enable the necessary calculations to be readily made. Such algebraic formulae are a branch of mathematics with which neither the business man nor the accountant need concern himself. Ordinary requirements are met by the use of bond and compound interest tables or by simple arithmetical calculations. For this reason the mathematics in this volume are limited to the arithmetical solutions of the problems. For a more detailed treatment of the subject the reader is referred to some other work.*

8. Sinking Fund Investments

Following the problem of annuity computations comes that of accounting for sinking fund investments—a comparatively simple matter. If the distinction between funds and reserves is clearly grasped, the entries on the books which are required to comply with the purposes for which the sinking fund is created present little difficulty.

9. Preparation of Financial Statements

The final goal of accountancy, as of the accountant's training, is the preparation of financial statements. Such compilations may vary from a simple statement of cash receipts and disbursements to the complicated balance sheet of a holding and operating company whereon is shown the consolidation of the assets, liabilities, and net worth of the parent company with those of its subsidiary corporations. Any intelligent bookkeeper could readily draw up the former, but the drawing up of a consolidated balance sheet requires a knowledge of the method of solving many of the problems already referred to, allied with wide accounting experience and with analytical power of no mean order. Part IV of this volume covers the theory and practice of statement preparation, and the discussion is adequate enough to meet all ordinary accounting requirements and to enable the business man to read and dissect in-

* "The Accountancy of Investment," by Sprague and Perrine.

telligently the content of any accounting statement. The theoretical side of statement compilation is also supported by practical examples of the complete financial reports that would ordinarily be drawn up for the information of the management of a mercantile and a manufacturing business.

In conclusion, it should be pointed out that a description of many forms and certain procedures which properly belong to the subject of advanced accounting are taken up in Volume II; also that no further reference is here made to cost accounting, the treatment of this phase of accounting in Volume III being considered adequate.

CHAPTER II

DEFERRED DEBITS

1. Closing Problems

One of the main problems of accounting is the adjustment of the general ledger to bring it into accord with the actual financial condition at the end of the financial term, and the difficulties which arise in this connection relate largely to the closing entries. To simplify the discussion of these entries they may be divided into two main groups as follows:

1. Those concerned with:
   - (a) Expenses charged during the present period which in part apply to a subsequent period.
   - (b) Income received and credited during present period for services to be rendered in subsequent periods.
   - (c) Expenses accrued during the present period, which have to be taken up on the books at its close.
   - (d) Income earned during the present period which has to be taken up on the books at its close.

2. Those concerned with:
   - (a) Ending inventory.
   - (b) Depreciation and obsolescence of assets.

(c) Expected losses on accounts receivable and notes receivable.

(d) Closing of nominal accounts into Profit and Loss.

The discussion of the items in group 2 is reserved for detailed treatment in later chapters. In this chapter the method of accounting for prepaid expenses (group 1, item [a]) and accrued income (item [d]) is taken up, to be followed in the next chapter by the discussion of accrued expenses (item [c]), and income received for services still to be rendered (item [b]). The prepaid expense items are summarized on the balance sheet, under the separate heading of "Deferred Debits" (assets); accrued income items are included among the current assets. In the same way expenses accrued appear among the current liability items and deferred income is shown under the separate heading of "Deferred Credits" or "Deferred Liabilities."

2. Accrued Interest vs. Interest Accrued

A distinction is observed by some accountants in the use of the word "accrued" so as to indicate clearly the sense in which it is used, i.e., whether the accrual is an asset or a liability. Accrued interest, for example, if the term is loosely used, may mean either interest due to a concern or interest owed by the same concern. The distinction between the asset and the liability elements may be expressed by the position of the word. When the word "accrued" appears before the item to which it relates, this item is an asset; when it is placed after the word, this indicates that the item is a liability. Thus, "accrued interest" means an accrued asset recorded but not collected because not as yet collectible; "interest accrued" means a liability accrued which is recorded but not paid, because not as yet payable.

3. Kinds of Prepaid Expenses

Prepaid expenses, also termed "deferred expenses" and "deferred charges to operation," constitute expenditures in excess of the portion applicable to the present period, by reason of which a smaller expenditure will be required in subsequent periods. They thus represent asset values to be charged to expenses in proportion to their consumption during future periods.

The prepaid expenses of the average business usually comprise such items as:

1. Insurance premiums paid in advance
2. Rent and royalties paid in advance
3. Interest and discount paid in advance
4. Organization expenses
5. Advertising contracts

If the policy be adopted of charging against current income all expenditures on the above items as and when made, the profits of certain periods might and probably would suffer a detriment for the benefit of other periods. Moreover, the value of comparisons between the operations of one period and those of another would be utterly destroyed. For this reason conservative accounting recommends that at the end of every fiscal period a sharp distinction be drawn between the expenses applicable to the period which has just expired and the expenses applicable to subsequent ones, and that each be charged only with its proper portion.

4. Accounting for Prepaid Expenses

To make the adjustment entries required before closing the books, the accounts should be examined with a view of determining what portion, if any, of the recorded expenses is to be deferred as expense chargeable to future periods. Assuming, for example, that the year's insurance, $360, is paid in advance on November 30, and that the books are closed a month later on December 31, the following journal entry would effect the required adjustment.

Insurance (New Account)	$330.00	
Insurance (Old Account)		$330.00

In the work of posting, the credit part is entered first, the posting of the debit being postponed until a new insurance account is opened. The debit *balance* of the old account represents the amount chargeable to the present period to be closed out to Profit and Loss, while the debit entry in the new account represents the deferred asset. The procedure can be readily followed from this example:

INSURANCE EXPENSE

Nov. 30	Cash	$360.00	Dec. 31	Unexpired	$330.00
				Profit and Loss..	30.00
		$360.00			$360.00
Jan. 1	Unexpired	$330.00			

Another method of recording deferred expense items is to make the necessary adjustment by taking out of the account the expense element, charging it to Profit and Loss, and leaving a balance which represents the deferred asset element. The only journal entry required under the second method is the same as the second entry under the first method, which is to close the expense into Profit and Loss, viz.:

Profit and Loss	$30.00	
Insurance Expense		$30.00

After posting and balancing, the account would appear as follows:

INSURANCE EXPENSE

Nov. 30	Cash	$360.00	Dec. 31	Profit and Loss	$ 30.00
				Balance	330.00
		$360.00			$360.00
Jan. 1	Balance	$330.00			

A third method, which involves the opening of new accounts, is to carry the prepaid expense in an asset account (for instance, Insurance Premiums Paid in Advance) and to credit this account at the end of the period with the portion charged to operations, debit being to the expense account. The latter account in its turn is closed out to Profit and Loss. In this case the adjusting entry to the asset account would be:

Insurance Expense	$30.00	
Insurance Premium Paid in Advance		$30.00

and the closing entry to the expense account:

Profit and Loss	$30.00	
Insurance Expense		$30.00

Under this method the asset and expense elements are recorded in separate accounts, thereby clearly indicating the amount deferred and the charge to operations.

Before taking up the matter of accrued income, the nature and origin of some of the prepaid items need explanation.

5. Organization Expenses

When a business is first launched, especially if it be a corporate organization, numerous preliminary expenses are incurred, such as incorporation fees, fees for filing and acknowledging papers, legal expenses, the cost of prospectuses, the fees of promoters and organizers, cost of printing certificates of stock, and so on. These expenses, which are a necessary outlay before business can begin, may be compared to the expenses of installing machinery in position and ready for use. Just as it is proper to add the cost of installation to the asset value of the machinery, and by means of depreciation to charge the total asset value to the cost of operations, so it is proper to capitalize the expenses of organization and charge them off to future profits. Theoretically, of course, it would be justifiable to spread the organization expense over the life of a corporation, but many accounting authorities hold that it should be written off as rapidly as possible. In support of this contention it should be noted that organization expense, unlike other prepaid expenses, does not represent any tangible asset value, in that it is an expense of the past and not a saving in expense for the near future. Therefore, the general practice is to write off the item within from three to five years, though conservative accounting would recommend charging it against the income of the first and perhaps the second year's operations.

6. Advertising

An advertising campaign of unusual magnitude is sometimes capitalized among the intangible asset items as good-will. This is done when the purpose of the expenditures is to create a wide demand and thus establish a good-will that is expected to react favorably upon the sale of the product during future years. The method of treatment in this case is similar to that of a deferred debit. It should be noted, however, that the practice of carrying advertising on the books as a deferred asset does not meet with the approval of conservative accountants, owing to the difficulty of estimating the value of the good-will created. For this reason it is to be discouraged unless special circumstances would warrant its treatment in this way.

The basis of capitalizing the advertising expenditure as good-will is discussed in Chapter XIX, where accounting for intangible assets is taken up.

7. Royalties

In mining, lumbering, and similar enterprises, royalty is usually paid for the right to exploit the natural resources of a tract of land. Payments in such a case are customarily based on tonnage of production, or cubic yards, or acreage worked, and the lease usually provides for a minimum royalty payment per year. Where this minimum expense during the period of development constitutes an excessive charge to a small volume of production, it would be proper to carry all or part of the royalty paid during the development period as a deferred asset. The expense would then be charged to the operations of the years during which the output reached its maximum volume, thus reducing the asset and spreading the expense of royalties more equitably over the period of production.

8. Accrued Income

Accrued income consists of rent, interest, or dividends earned which have accrued but which have not yet been received on:

1. Investments in real estate
2. Bonds of other companies
3. Loans on collateral securities
4. Bonds and mortgages
5. Stocks of other companies

Since the date at which rent or interest matures and becomes payable does not always coincide with the end of the financial term, it follows that a certain amount of income from investments may have been earned of which there is no record on the books because the actual cash therefor has not yet been received. Such income represents an asset claim which, at the time of adjusting and before closing, should be set up in what is virtually a suspense account receivable. This, like any other account receivable, is closed out by cash when payment is received. If this point be borne in mind it will help to make clear the distinction between accrued income and deferred income to be discussed in the next chapter.

9. Cash Methods of Handling Accounts

In every business the customary practice is to set up on the books all accounts for the sale of merchandise, but in the case of the accrued items of income frequently no record is made until the income is actually received. It may be the policy of the concern to keep its books on a "cash basis," which implies that only income actually received in cash is to be entered on the accounts and that only expenses actually paid constitute charges against operations. If such be the practice, it is apparent that the true income cannot be shown in the period in which it is accrued, and that the period in which the cash is received obtains credit for an amount to which it is not entitled. Moreover, this policy has the disadvantage of not being consistent, for if it is sound accounting to ignore the income until it is received, it is equally sound accounting to ignore the profits on sales until customers have paid the accounts receivable which contain these profits. Yet no business concern which claims to keep its books on a cash basis is consistent enough to apply that basis to merchandise transactions.

An argument in defense of the cash basis is that in actual practice it works out correctly on the theory of averages; i.e., these accrued earnings of a preceding period when taken up on the receipt of cash in the current period will approximately equal the accrued amount of the present period which is not taken care of. While this may be true, it does not fulfil the essential requirement of accounting accuracy. If reliable results are to be shown, all accrued earnings must be brought onto the books at the close of the period to which they belong.

10. Accounting for Accrued Income

The manner of handling accrued income items is the same in principle as is the treatment of prepaid expenses. The offsetting debit, when the accrued income is credited to income account, is to an asset account to represent the accrued amount receivable. When the accrued amount receivable has been collected, cash is debited and the asset account credited.

As with prepaid expenses, there are different methods of recording accrued income. To take the first method described, and assuming that on December 31 rent owed to a business but not yet collectible amounts to $300, the journal entry to adjust the income account would be:

Rent Income (New Account)................	$300.00	
Rent Income (Old Account)...........		$300.00

The credit part of the entry is posted first, after which the debit posting is entered a few lines below the last entry so as to permit the account to be totaled and the total income closed out to Profit and Loss. The debit part of the entry entered in the new account constitutes the accrued asset element.

To illustrate the procedure it is assumed that the income received during 1919 amounts to $3,000, and that at the closing of the books $300 have accrued.

Rent Income

1919			1919		
Dec. 31	Profit and Loss...	$3,300.00		Cash	$3,000.00
			Dec. 31	Accrued	300.00
		$3,300.00			$3,300.00
1920					
Jan. 1	Accrued	$ 300.00			

When the accrued income is received, the entry of the amount thereof to the credit of the above account merely cancels the accrual included in the earnings of the previous period; in other words, the cash when received must not be included in the income of the present period, as would be the case were it not offset by the accrual.

The second method of handling accrued income items is to carry them in an asset account. This is separate and distinct from the income account, and is set up at the time of adjusting and before closing the books. To illustrate the procedure, Accrued Rent Receivable or other suitable account is debited at the close of the financial term with the items accrued but not collectible; at the same time the credit entry is made to Rent Income account. The Accrued Rent Receivable account is opened as a temporary expedient to show the accrued asset element when the books are closed. The first entries for the new period consist in transferring all such accrued asset balances to their respective income accounts, where they serve the purpose of subtracting from the income actually received during the current period the accrued amount carried to Profit and Loss at the close of the preceding period. The following accounts and entries make clear the method:

RENT INCOME

1919			1919		
Dec. 31	Profit and Loss..	$3,300.00		Cash	$3,000.00
			Dec. 31	Accrued	300.00
		$3,300.00			$3,300.00
1920					
Jan. 1	Accrued	$ 300.00			

ACCRUED RENT RECEIVABLE

1919			1920		
Dec. 31	Rent Income	$ 300.00	Jan. 1	Rent Income	$ 300.00

Under a third method, all receipts of income are credited to the asset account, to which all income is charged as due; the balance showing the accrued income not as yet collected or collectible. The effect of debiting all income accrued or received to the asset account, with the offsetting credit to the earnings account, is that the debit side of the asset account is at all times equal to the credit side of the income account.

To illustrate, assume that a bond and mortgage investment of $24,000 is made on January 1; that interest at 6% is to be received semiannually; that the books of the investor are closed monthly; that the mortgage is redeemed with accrued interest of $720 on June 30. The account and entries below cover the transaction:

MORTGAGE INVESTMENT

Jan. 1. Cash	$24,000.00	June 30 Cash	$24,000.00

ACCRUED INTEREST ON MORTGAGE

Jan. 30 Int. on Mortgage..	$120.00	June 30 Cash	$720.00
Feb. 28 " " " ..	120.00		
Mar. 31 " " " ..	120.00		
Apr. 30 " " " ..	120.00		
May 31 " " " ..	120.00		
June 30 " " " ..	120.00		
	$720.00		$720.00

INTEREST ON MORTGAGE (INCOME)

Jan. 30 Profit and Loss....	$120.00	Jan. 30 Accrued Interest..	$120.00
Feb. 28 " " "	120.00	Feb. 28 " " ..	120.00
Mar. 31 " " "	120.00	Mar. 31 " " ..	120.00
Apr. 30 " " "	120.00	Apr. 30 " " ..	120.00
May 31 " " "	120.00	May 31 " " ..	120.00
June 30 " " "	120.00	June 30 " " ..	120.00
	$720.00		$720.00

It should be noted that on the redemption of the loan on June 30, the usual monthly entry of:

Accrued Interest on Mortgage................	$120.00	
Interest on Mortgage.................		$120.00

is first made in order to show the income in the earnings account, after which the transaction is closed by the simple entry of:

Cash	$24,720.00	
Mortgage Investment		$24,000.00
Accrued Interest on Mortgage.....		720.00

Thus the debit side of the asset account at all times equals the credit side of the income account, the balance of the asset account representing the outstanding amount receivable.

11. Dividends Receivable

A full discussion of dividends and the manner of accounting for them on the books of a corporation which has declared them will be found in Chapters V and VI. Here it is necessary to consider the method of recording them on the books of the concern to which they are payable.

Dividends receivable differ from interest on investments and from rentals, in that they cannot be taken up as an asset or income until they have been declared. It may have been the custom of a conservative corporation with ample reserves from which to draw, to declare a regular dividend at the close of each fiscal period, but because it has pursued this policy in the past the corporation is in no way bound to continue it in the future. Hence, as there is no certainty that the directors of any corporation will deem it advisable to make a distribution of profits at any future date, dividends which may be expected but have not yet been declared should not be taken up. On the other hand, when once a dividend is declared its amount may be included among the current accrued items of income even though it may not be receivable for some time to come.

REVIEW QUESTIONS

1. What are four classes of adjusting entries which must be made at the end of a fiscal period in order to have the books show the actual financial condition?
2. What is the distinction in terminology used by some accountants to differentiate between interest owed by, and interest owing to, a company?
3. What are the prepaid expenses of an average business?
4. What are the accrued income items of an average business?
5. When may income from dividends be accrued?

CHAPTER III

DEFERRED CREDITS

1. Liabilities Accrued

As with the deferred asset items, the contention is frequently raised that the amount of liabilities accrued not entered on the books at the close of one period would approximately equal those at the end of another period and therefore the financial statement in which the accrued items are not shown may yet reflect the true financial conditions.

The answer to this argument is that if it is necessary to show all the assets of a business, including the deferred items, at the close of a fiscal period, it is equally, if not more, important to give a full and accurate accounting of all liabilities—not only those already entered on the books but any accrued items which have not yet been taken up. Therefore, just as the principle of showing full truth as to assets and income involves carrying over any prepaid expense and accrued income items from one period to another, so does the same principle applied to the liabilities involve carrying over any expenses accrued and prepaid income—items which appear on the balance sheet under the captions "Deferred Credits" and "Liabilities Accrued." These terms, it should be noted, are used in connection with the balance sheet as captions covering respectively items of deferred income and of expenses accrued.

2. Expense Accrued

Expense accrued consists of those claims against the business for goods or services rendered which at the time of closing the books have not yet been entered, usually because there is no documentary evidence of the liability. Practically every expense of a business may at one time or another accrue in this way. The items, however, which in general are encountered are rent, taxes, interest, water, sales commissions, traveling expenses, advertising, and similar services for the amount of which an invoice or a memo has not yet come to hand at the time of closing the books and the amount of which in consequence cannot always be accurately determined and must sometimes be estimated. A service received during one period which for some reason or other has not yet been entered on the books represents a current expense which must be paid for later. As such it is a proper charge to a suitable expense account and a proper credit to some liability account. This liability account represents a suspense account to which the expense is temporarily credited until payment becomes due, whereupon either Cash or an account payable is credited and the liability is expunged with the offsetting debit.

3. Accounting for Expense Accrued

Expense accrued may be accounted for in three ways which are the same in principle as those applied to the recording of accrued income—the entries on the books being, of course, reversed. Under the first method one expense account only is opened, to which the accrued amount is debited and the liability credited as illustrated below. Assuming, for example, that a rental of $600 is payable at the end of the year and that the books are closed half-yearly, the expense accrued on June 30 would be $300 and the following journal entry would be required to bring it on the books:

Rent (Old Account)	$300.00	
Rent (New Account)		$300.00

The above record, it may be noted, differs from that shown on page 21 only in the accrued amount being treated as a liability instead of an asset. After the debit part of the entry has been posted and the account is ruled off, the credit posting is entered in the new account. The debit balance of the old account represents the charge to Profit and Loss, and the credit balance of the new account is a liability on the closing date. As this liability has already been charged against income, it is brought down as a credit so as not to be again taken up in the closing entry of the next period.

Under the second method a liability account under a suitable title such as "Rent Accrued" is opened at the close of one period and closed by reversing the entry at the beginning of the next. The procedure has been illustrated in Chapter II, § 10, where the entries for accrued income are, of course, the reverse of those required for expense accrued.

The third method is to record the liability in a separate account which is kept open until the liability is paid. When payment of the debt is made, the credit to Cash is offset with a debit to this account. The perfect working of the method requires that the credit side of the liability account shall equal at all times the debit side of the expense for which the obligation is incurred. This is the principle applied to the method of recording accrued income illustrated on pages 23 and 24, and therefore no further illustration is here required.

4. Taxes Accrued

In considering the taxes accrued chargeable to current operations, it is sometimes contended that as the amount of the liability is unknown, no real liability can be said to exist. For this reason, as taxes are not usually payable during the period covered by them, there is a temptation to defer their incidence to a later period. The weakness of this argument and practice is that, though the real amount may be unknown, it is still a liability which must sooner or later be met. Therefore the tax charges for the year should be estimated as accurately as possible and the portion accrued against current operations should be charged thereto. Any difference when the real amount becomes known must be taken up in a later period. In accounting for taxes a Taxes Accrued account is credited period by period with the amount charged to current operations, such amounts being sufficient to accumulate at the end of the year the estimated tax liability. When the taxes are paid the Taxes Accrued account is debited with the actual amount. If this is more than the estimate, an asset remains on the books; if less than the estimate, a liability still exists which must be taken up in the estimate of the next year and thus equitably distributed over future operations. The asset is deducted from, or the liability is added to, the estimated amount of taxes for the next fiscal year and is thus equitably spread over future operations.

5. Deferred Income

Deferred income represents payments received and taken up on the books during the current period for which services in part must be rendered during future periods. On the books of the business which makes the disbursement, the payment represents an asset; on the books of the recipient of the payment, it becomes a liability. Thus, any service which from the point of view of the payer is prepaid expense, becomes from the point of view of the payee deferred income. Rentals, advertising contracts, magazine and newspaper subscriptions, and any other charges or fees received in advance of the rendering of service constitute deferred income.

It may be noted that while such income gives rise to a liability for service which may or may not entail expense, it does not represent a financial liability in the strict interpretation of the term, inasmuch as it does not require a future disbursement, as does expense accrued. Therefore the motive of deferring the taking of the fees into income until such time as the work is done is not due to the necessity of showing the liabilities in full, but to the conservative accounting principle of crediting income only to the period in which it is actually earned.

6. Accounting for Deferred Income

The method of handling deferred income items is first to credit the income account with the amount received and charged to Cash (or the amount due and charged to an account receivable), and then to adjust the account by journal entry as follows:

Rent Income (Old Account)	$500.00	
Rent Income (New Account)		$500.00

As the debit part of the entry is posted before the account is closed and the credit part is posted to the new account, the effect of the adjustment is to subtract the amount deferred from the current income and set it up as a liability, which becomes income during the succeeding periods. The liability thus offsets the asset cash received. The following account, in which six months' rent amounting to $600 is assumed to have been received in advance, illustrates the posting work at the end of each month:

RENT INCOME

Jan. 31	Deferred	$500.00	Jan. 1	Cash	$600.00
	Profit and Loss....	100.00			
		$600.00			$600.00
			Feb. 1	Deferred	$500.00

An alternative method is to carry the amount received in a liability account and to transfer to Profit and Loss the current income at the close of each period. The above account would then be kept as follows:

DEFERRED RENT INCOME

Jan. 31	Profit and Loss ...	$100.00	Jan. 1	Cash	$600.00
Feb. 28	" " " ...	100.00			
Mar. 31	" " " ...	100.00			
Apr. 30	" " " ...	100.00			
May 31	" " " ...	100.00			
June 30	" " " ...	100.00			
		$600.00			$600.00

The advantage of this method is greater clearness and less clerical work in that it is unnecessary to close the liability account until the obligation is written off. The entries, it will be noted, are the reverse of those required in a case where rent is a prepaid item and thus an asset.

REVIEW QUESTIONS

1. Should taxes be accrued?
2. What is meant by "deferred income"?
3. Explain the difference between deferred income and accrued income?
4. Explain the difference between deferred expenses and expenses accrued.

CHAPTER IV

PROFIT DETERMINATION

1. Definition of Profit

Profit consists of the surplus remaining from the employment of capital after defraying the necessary expenses and outlay incidental to its employment and after the capital has been replaced or provision made for its replacement. If there are not sufficient assets left to replace the capital, the result of the venture or employment is a loss and the amount by which the capital is diminished is the measure of this loss.

It should be observed that while the above definition of profit is true in theory, it cannot always be employed in practice. What may be legally regarded as profit and thus be declared as a dividend, is often a matter of much controversy. Differences of opinion exist as to what are the profits of a company for dividend purposes and the subject has been before the courts repeatedly. While the law has rigorously opposed the direct payment of dividends out of capital, there has been no consistent recognition by legal authorities of depreciation and its effect upon profit. The difficulties of the subject lie chiefly in the distinctions between the strictly legal and the conservative accounting view of the principles upon which the computing of profits should be based. These distinctions will be taken up here and in later chapters. For the present, the subject may be further defined and developed under the three classifications: (1) capital profit, (2) gross profit (also termed trading, operating, manufacturing), (3) net profit.

2. Capital Profit

Capital profit is any net increment in asset value, secured in connection with capital assets but not attributable to the ordinary profit-making operations of the business; e.g., the sale of a capital asset such as land for an amount in excess of its cost. Capital loss is any net decrement of asset value not connected with the profit-making operations of the business; e.g., a loss by fire not covered by insurance. The theory of accounting in connection with the recording of a capital profit or loss is that such profit or loss should not be merged with the accounts relating to the regular operations of the business but should be recorded in separate accounts and that the source of the profit or the cause of the loss should be indicated.

Only the profit which is due to the normal operations of a business should be shown in the first division of the profit and loss statement as discussed in Chapter XXII. All other earnings should be set forth separately so that their origin may be clearly seen. The reason for this is that the profit derived from the trade operations of any one period is intended to be compared with the figures of other periods. Such figures are often expressed in percentages. If a profit due to extraordinary operations which are not likely to recur is included in the figures of the ordinary operations, the percentages are affected and the value of the comparisons is diminished.

A concern, for example, might realize a large and unexpected profit from the sale of a portion of its fixed assets. If this were closed out to Profit and Loss in the usual way and merged with the other items of revenue, a false impression of prosperity would be given to stockholders and creditors. If, though, the profit on such a transaction is large enough to be distributed as a dividend, it may be legally disposed of in this way. The better and more conservative method, however, is to carry such a profit on the books as a contingent reserve against possible losses on other capital adjustments and to show the reserve as a portion of surplus on the balance sheet.

3. Gross or Manufacturing Profit

Gross or trading profit is a term used in commercial bookkeeping to indicate the difference between the cost of goods bought and the selling price thereof, without any deduction for the expense of distribution or the cost of management. Trade discount should be deducted in ascertaining gross profits, but not cash discounts. Depreciation of original cost values should also be considered in determining the *cost* of goods for the purpose of calculating gross profits.

Manufacturing or operating profit represents the difference between the cost of goods manufactured and the price at which they are sold without any deduction for selling, advertising, or administrative expense. This definition leads to a discussion of the propriety of taking up on the books profits earned on work in process and finished goods prior to their actual sale; that is, before the manufacturer has parted with title.

4. Profit on Work in Process

On the theory that profits should never be anticipated, the general commercial practice is to ignore the profit accrued on work in process. This rule, however, is subject to modification when the profits of several periods steadily accrue on work which has been contracted for. If the size of the order or the size of the unit of manufacture is so great that the work is spread over several cost periods, as in the shipbuilding and engineering trades and on large-scale construction work, it is customary to add a proportion of profit to the cost of the work in process at the time of closing the books, such profit being conservatively estimated in accordance with the terms of the contract.

In the case of large contracts running, perhaps, over a period of years, it would seem that many unforeseen contingencies might arise to delay or prevent the contract being fulfilled according to its terms. Therefore, the anticipation of a profit on work of this character would appear to violate one of the fundamental principles of sound accounting. In a business the units of which are small, orders are frequently taken in advance of shipment and a large portion of an inventory may be simply awaiting delivery. Accounting authorities agree that the profit on such goods should never be taken up until the goods are actually shipped. Why, then, is it permissible to anticipate the profit on a contract with many more unforeseen contingencies to face than goods completely manufactured and merely awaiting the buyer's instructions for delivery?

The answer to this pertinent question is that where the unit of production is large, expediency governs;

where small, the ordinary commercial practice is followed. If the profit on contract jobs were taken up only on their completion, and several reached completion during the same period, the books might show a state of affairs vastly different from the facts. In such a case not only would stockholders be rightly impatient at the delay in the distribution of profits, but many of them might in consequence be so financially embarrassed as to be compelled to sell a portion or all of their holdings.

Where the contract work, instead of being undertaken at a round sum, is done at a fixed rate of profit on a cost-plus basis, the contingencies giving rise to the objection mentioned above are greatly minimized. It is then not a matter of expediency but of proper accounting to take up the profit earned on the portion of the work completed. Where an accurate and carefully kept cost system is in operation no difficulty should be experienced in determining the cost price of the work in process.

5. Profit on Finished Goods

Theoretically, if goods have been ordered and are ready for shipment awaiting instructions from a buyer of undoubted integrity and commercial rating, it would seem that no objection should be raised to taking up the profit on such goods by entering the sale and debiting accounts receivable. The expense of taking the order and the costs up to the point of its delivery have all been incurred. Exaggerated and unnecessary caution alone seem to stand in the way of the realization of a legitimate profit. Yet the practice of all conservative concerns is to wait until the goods are actually delivered before taking credit for the profit thereon, for the reason that, as every business man knows, orders are often canceled and the cancellation accepted; or a fire or some unforeseen occurrence may prevent the realization of the expected sale. Only the unsuccessful business man who clutches at every profit in sight so as to make the best possible showing when his books are closed, anticipates the profits on goods ordered but not actually shipped. Conservative accounting universally condemns such a practice.

6. Interdepartmental Profits

Another aspect of the problem of taking up profit on work in process is seen where different kinds of manufacture are carried on in the same plant, or when several distinct enterprises combine for the manufacture of a completed article. The purpose of the combination is to control all stages of production and thus benefit from a series of profits throughout the various processes. How are those profits to be taken up? If a profit were added to each process, from the raw state to the completed product, a concern might, when the market is depressed and prices are falling, find itself with a highly inflated inventory and no prospect of realizing the anticipated profits. On the other hand, if one department or branch of the business "sells" its product to the department next in line at cost without profit, this last department will probably secure its "raw material" at a lower price than it would have to pay for the same product bought in the open market. If the profits of all departments are merged in the final profit, it becomes difficult to measure their efficiency and compare it with that of outside and competing concerns.

The answer to the problem is that the purpose of combining several distinct types of manufacture is to cut the cost of the finished product and this purpose should be kept in view. Generally speaking, the greater the number of stages of manufacture, the lower will such cost be. Therefore, if credit is taken for profits as they are assumed to arise, the final cost of the article is obscured and the original purpose of the combination is defeated. There would be no objection to recording these intermediate profits for the purpose of determining the efficiency of different departments, provided the profits were held in reserve until the sale of the final product. But to take them up on the books and present them on the balance sheet as actually earned, by including them in the value of the work-in-process inventory, would be wrong in principle and misleading in fact.

7. Net Profit

Net profit represents the balance remaining after charging against gross profits all necessary operating expenses. To determine the net profit or loss for the period of either a manufacturing or a trading concern, any income from sources other than sales, such as interest on investments, is added to the net profit on sales; and any deductions from income which are not part of the regular operating expenses, such as interest on notes payable or a mortgage, are subtracted from the gross income. The resulting figure is the net profit or loss for the period. This amount, in the case of a corporate organization, is closed into surplus, from which dividends are declared at the discretion of the board of directors. In the case of a sole proprietorship or partnership, the profit is disposed of as the management sees fit.

8. Problems of Profit Determination

In determining the amount of the profits earned by a mercantile business, comparatively few accounting problems arise as compared with those encountered in the operation of a manufacturing concern. The cost of the goods bought and sold and the inventory values can be ascertained from creditors' invoices; the expenses of operation other than perhaps a few prepaid items as yet unconsumed are all chargeable against the gross profit; and depreciation, bad debts, and any other contingencies can readily be provided for by charging them to Profit and Loss and setting up adequate reserves.

In determining the profits of a manufacturing concern the problem is much more complex, because many factors enter into the cost of the goods manufactured and sold. In the case of a small factory organization the accountant should have little difficulty in drawing up a proper schedule of depreciation rates and in classifying expenditures under the heads of either expense or capital assets. But when a manufacturing business grows rapidly or requires a large capital investment in machinery and other plant equipment for its operation, the problems tend to increase in difficulty. Renewals, extensions, and alterations to the fixed assets may need to be constantly made, and the factor of depreciation may constitute such an important item of cost as seriously to affect the profits available for distribution if appreciably under- or over-estimated.

9. Appraisal of Asset Values

It is obvious that any under- or over-estimation of asset values will proportionately exaggerate the financial weakness or strength of a going concern. Unless the balance sheet figures of a business are approximately correct, being neither very much too high nor too low, not only are its creditors deceived as to its exact financial position, but the management itself may obtain a wrong impression of stability. The accounting will, moreover, fail in its primary purpose of rendering a true statement of financial conditions at a given date.

The argument has been advanced by some theorists that the statement set forth in the balance sheet does not, in itself, reflect true financial conditions; and that when the assets and the net worth of a concern are understated, the variation from truth is rather a merit than a failing. This opinion is supported by the precedent set by all conservative enterprises, especially corporations. The assets and the net worth of a company are not infrequently expressly undervalued for the purpose of eliminating any possibility of distributing dividends which have not been earned.

The argument for and against the undervaluation of assets and the necessity of presenting a true statement of condition may be summed up by the following quotation: *

"In so far as the undervaluation of certain assets is merely an attempt to secure a more truthful conspectus

* "Modern Accounting," by Professor Hatfield.

of the entire situation, the action may be justified. An argument that however truthful one's intentions may be, he is almost sure to overestimate the value of his own possessions, and therefore after having determined what he really thinks they are worth, his results will be more accurate if he arbitrarily writes off certain sums, is not without force. But to state that an absolute understatement is praiseworthy neglects the fact that fraud may surely be perpetrated in that manner; and while the reaction against overvaluation is but natural and in general healthful, it seems a mistake to overlook the value of accuracy and to cease to hold it up as the goal of accounting. Time was, and that not long since, when even the Supreme Court of the United States stated * that there is but little danger that any board of directors will ever understate the value of the assets, thereby also underestimating the profit, the temptation being in the opposite direction. But certain notorious bear operations in the stock exchanges show that the unforeseen has frequently happened, and the undervaluation of assets, with its accompanying understatement of profits and establishment of a secret reserve, if the lesser of two evils, nevertheless falls far short of the ideal standard of accounting."

10. Aspects of Value

The value of an asset may be considered from various points of view, but the particular aspect in a given case will be determined by the purpose for which the appraisal is made. Among the many possible kinds of valuation which are established facts in business are:

* Union Pacific R. R. Co. v. U. S., 99 U. S. 402.

1. Original cost value
2. Present or depreciated value
3. Reproduction cost value
4. Market or sales value
5. Earning capacity value
6. Scrap or junk value
7. Liquidation or forced-sale value

While all the above aspects of valuation are applicable to the tangible assets and many of them to the intangible assets, it is evident that the values arrived at under one aspect would vary—in some cases materially—from those under another. A valuation which listed the assets of a business at the probable price realizable under a forced sale brought about by bankruptcy, would be very different from the valuation of the same assets on the basis of their reproduction cost were they destroyed by fire. If the fixed assets of an insolvent business were appraised at their probable market or forced-sale value, this might and probably would be little more than their scrap value. The same assets, if included in the sale of the business as a flourishing and going concern, would be properly listed at their original cost value less depreciation, because this would represent their full worth to the business.

It is apparent that the value of an asset, as of any economic article, lies wholly in the use to which it is put, i.e., in its operation. Therefore, in making a valuation for commercial balance-sheet purposes, the general principle may be laid down that an asset is to be valued at its present worth to the business as a going concern.

11. Basis of Valuation

The problem of determining what a particular asset is worth to a business may be simplified by classifying it within one of the two broad divisions of the assets: (1) fixed, and (2) current or floating. Though the line which separates these two classifications cannot always be sharply drawn, the general distinction is that the fixed assets are those bought or constructed for permanent use in the business; the current assets are those sold for the purposes of revenue, or used for current needs in the business.

In appraising the fixed assets, such as plant and fixtures, their worth to a business as a going concern is commonly taken to be their original or cost value, less depreciation, regardless of any subsequent decrease in value due to fluctuations of the market price of the material and labor which entered into the original cost. In appraising the current assets of the inventory, such as goods bought for resale or finished goods manufactured for sale, the rule of conservative and sound valuation is that such assets are to be appraised at cost—less physical depreciation—unless the market or current price is lower than cost. In this case the cost value is to be offset by the creation of a reserve or valuation account. In other words, it is considered legitimate to show the fixed assets on the books at their original cost despite any subsequent decrease in the cost of their reproduction, whereas in valuing the current inventory assets, consideration must be given to market values when these are lower than the book figures. When the market value of either a fixed or a current asset exceeds its cost price, the problem of appreciation arises. This subject will be taken up in a later section.

12. Sources of Data for Valuation

The source of the data on which the valuation is based is usually a set of double-entry books showing the original cost of the asset and the depreciation to date in separate accounts. Where a single-entry system is used, the books will probably prove inadequate sources of information, in which case the data must be sought for in the original purchase invoice. If neither bookkeeping nor invoice figures are available, trade catalogues or lists must be consulted, if the asset in question is a catalogued item. If the asset cannot be valued from any of these sources, then the memory or the judgment of persons of experience must be relied upon.

Where data are not available as to original cost of important assets, such as building and plant, and when an estimate based upon the opinion of the owner or manager is not acceptable, an appraisal company which specializes in this kind of work may be called in to make a valuation. Such a company usually bases its estimates on the probable reproduction cost value of the asset in question less the depreciation which it has already undergone.

13. Capital vs. Revenue Expenditures

In determining the cost value of the fixed assets of a concern and especially those of a manufacturing enterprise, the problem already referred to of drawing a correct distinction between capital and revenue expenditures frequently arises. The incorrect allocation of items of expenditure may sometimes represent the margin between the current profit or a loss. Items classified as a capital expenditure, when they are properly chargeable to expense, may cover up a shrinkage in net earnings, caused by bad management or even defalcations. If expenses are capitalized, a favorable profit and loss statement may be shown which is not true to fact. Therefore attention needs to be directed to the importance of drawing a careful distinction between capital and revenue items.

Capital expenditures are those resulting in the acquisition of assets of a more or less permanent nature, purchased to be used in the carrying on of the business, and not for sale; or expenditures which increase the value of assets previously acquired. Expenditures resulting merely in the up-keep or maintenance of the foregoing capital assets constitute revenue expenditures.

The practical application of the distinction between capital and revenue expenditures is sometimes difficult and perplexing. If through a conservative desire not to overestimate asset values, expenditures are recorded as revenue items which are properly capital charges, the periodical expenses will be greater than they ought to be, with a resulting decrease in the net earnings for the period. Such a policy might not be detrimental to the interests of the sole proprietor or the partners of a business if it merely resulted in adding to the capital value of their enterprise. But if the payment of the interest due to the bondholders of a corporation depended upon earnings, their just claims might be secured only in part or even temporarily ignored if charges were treated as expense which, properly considered, should have been treated as additions to plant.

The problem is to some extent dependent upon the drawing of a clear distinction between expenditures which increase and those which merely maintain earning capacity. Expenditures on alterations or additions to plant made for the purpose of adding to the existing assets and thus directly or indirectly increasing present earning capacity, are properly capital charges. But if the purpose of the outlay is to replace assets wasted during operations, it should be treated as part of the cost of operation and charged against revenue.

14. Maintenance—Repairs, Renewals, and Replacements

Only after an enterprise enters the revenue-producing stage does the question arise as to whether the payment of a definite sum should be considered the cost of an equivalent asset or merely the payment of an expense. Expenditures on new construction or on additions to plant and equipment are clearly a capital charge. But when existing property is renovated or plant and machinery is renewed by the replacement of those parts which have outworn their usefulness, it is often difficult to determine how much of the expenditure is chargeable to the expense of current operation and how much is to be capitalized and charged to future operations by means of depreciation. The dividing line is so closely drawn that an arbitrary working rule must usually be adopted suited to the needs of each particular case. A. Lowes Dickinson, an authority on the subject, says: *

"In the consideration of maintenance expenditures,

* "Accounting Practice and Procedure."

it is apparent at the outset that there are two distinct theories upon which this problem can be properly considered.

"Under the first method, capital is considered to have been invested, once for all, in property which is permanent and must be kept up at the expense of income, no additions being made to the capital account except for entirely new and additional property, and all expenditures of maintaining or replacing the existing property, irrespective of the relative values at the time of construction and of replacement, being charged to Income account.

"Under the second method, each unit of property is followed from its construction to its removal or destruction; upon abandonment, its original cost value is written off to income and the cost of the new structure which takes its place is charged to capital.

"Under the first method changes in price levels are reflected in the Income account, while under the second method they are reflected in Capital account. Over a long period of years, where prices are rising and falling alternately, there will be little difference between the results of the two methods in this respect, provided that one or the other is consistently followed throughout for each class of assets; and provided that proper provision is made under the first method for dealing with property abandoned and not replaced. If, however, prices are continuously rising or continuously falling, the first method will give greater or smaller charges, respectively, to Income account, than the second, and the latter will tend to keep the Capital account nearer to the current level of prices than the former. The first method perhaps brings out more clearly the problem with which operating officials have to deal—namely, the maintenance of the property entrusted to them for the purposes of operation—and avoids the confusion which frequently arises between depreciation due to wear and tear (which sooner or later will have to be made good by cash expenditures), and appreciation arising from circumstances entirely outside the operations, which can never be realized so long as operations continue, and which should be dealt with as a separate question."

Thus capital and revenue expenditures are readily differentiated in theory. The perplexities begin when the theoretical principles are applied to situations which develop in practice. These will be discussed as the problems arising in the valuation of different classes of assets are individually considered in later chapters.

15. Effect of Depreciation on Profit

The factor of depreciation enters into the valuation of every type of fixed asset, and is the chief cause of the differences of opinion in arriving at a correct appraisal of asset values and consequently of the determination of profits. The factors, principles, and methods of recording depreciation are discussed in later chapters. Here attention need be directed only to the importance in all valuations of ample provision for depreciation not only for the present but also for past periods. The depreciation charge for the present period may be adequate, but it should not for this reason be assumed that a similar amount has been written off the value of the asset during past years. The tendency, in the case where more attention is paid to the expediency of the present moment than to strict regard for the truth of financial condition, is to make liberal provision for depreciation during prosperous periods but to ignore it as a factor of expense during years of financial stringency, in which case the figures as to the profits of any particular year may be misleading.

The purpose of depreciation is to spread the cost of an asset over the years of its life and thus avoid charging the year when the asset finally proves unserviceable with the total cost of its renewal. Therefore, the immediate effect of allowing for depreciation is to equalize the profits during years of average and similar prosperity. If the profits of lean years are fictitiously augmented or if losses are concealed by neglect to provide for depreciation, such a policy is dangerous to the stability of a concern and fraudulent to its creditors. Not having been shown the true condition of its assets and the true amount of profits made, they are unable to form a correct estimate of the present worth of the concern.

16. Effect of Appreciation on Profit

If the valuation of assets should always include the provision made for depreciation as an expense, it might appear equally logical to show any appreciation in asset values as a profit. Here again the governing principle is the value of a particular asset to the business as a going concern and not its value due to adventitious circumstances. The site upon which a factory is built may conceivably greatly appreciate in value, yet its value to the occupying enterprise, considered in the light of earning capacity, is in no way enhanced. It is, therefore, proper to ignore the appreciated value and to show the asset on the books at its original cost. While the site is occupied by the factory its value cannot be realized. It is true, the land might be sold and the factory transferred to a less expensive site, but the value attached to the possible realization of such a future profit is too remote to embody in formal accounts. In the rare case where a fixed asset is sold and its sales value is found to be greater than its cost, it is allowable to take up the increase upon the books because the profit resulting from the increase has been earned.

While the guiding principle in the recording of fixed assets, as with the current assets of the merchandise inventory, is that no profit shall be taken up on the books unless earned or realized, not all accountants agree with this conservative policy. Although it is not recommended here, many contend that when a substantial and presumably permanent increase takes place in the value of capital assets, the increase should be shown in the proper asset accounts and credited to Surplus account. It is becoming common accounting practice to set up a special account called "Capital Surplus," "Special Surplus," or other appropriate title to contain surplus that does not arise from earnings. The reason given for such a course is usually that if unearned surplus is mingled with earned surplus, dividends may be declared therefrom; and it is a common notion that dividends should be declared only from earnings. But this, it is contended, is neither legally nor logically correct. If a corporation has an actual surplus, whether it appears in one account or in several, it is proper, and likewise perfectly legal, to declare a dividend; and if the corporation has plenty of cash to do so, it may be prudent as well.

17. Methods of Determining Profit or Loss

As from the nature of things the determination of profits cannot be deferred until all the assets of a concern are realized, it is necessary to fall back upon estimates of depreciation when it is required to figure the value of the capital assets. Assuming the accuracy of the information recorded on the books as to the assets and liabilities, then the difference between the net worth at present and that of a former date constitutes (after making proper allowance for withdrawals or additions to capital) the profit or loss as the case may be. This method, known as the asset and liability method, is the one used in determining the profits made when the books are kept under the single-entry plan.

As previously pointed out, the defect of this method is that it fails to analyze the cause of a profit or loss and thus the information afforded is inadequate for a business of any size or importance. To remedy this defect, accounts are kept under the double-entry method to record expenses and income and thus fluctuations in net worth. These accounts are subdivisions of the Profit and Loss account which provides for their summarization at the close of each fiscal period.

In single-entry bookkeeping, profit or loss is determined by comparing the net worth of one period with that of another. In double-entry bookkeeping the same profit or loss figure is obtained from the Profit and Loss account. The net result secured from this account should agree with the net result obtained by applying the single-entry method to the business facts shown on the balance sheet.

18. Summary of Principles of Profit Determination

The general accounting principle has been laid down in this and the preceding volumes of this series, that profits cannot be recognized as earned—and therefore cannot be taken up on the books—until the sale upon which their realization depends, actually takes place. To this general principle may now be added the following which develop from the preceding discussion:

1. Profits accrued and earned during one period but realized during another should be credited to the period when earned.
2. Profits realized on the sale of fixed assets should be distinguished from profits derived from operation.
3. Losses, i.e., expenses incurred in the earning of profits, should be charged against profits so earned.
4. Capital losses should be charged against surplus where possible.
5. Profit on work in process and finished goods should only be taken up when there is contractual evidence of their sale and *when failure to take them up would falsify the figures as to the profits of the current and later periods.*

Assuming, then, that a correct distinction has been made between capital and revenue charges, that all expense accounts have been either charged to the cost of manufacture or closed into Profit and Loss, and that adequate reserves for depreciation have been set up in appropriate accounts, the balance of the Profit and Loss should be a true reflection of the profits earned or the losses incurred during the period under review.

REVIEW QUESTIONS

1. Define net profit; gross profit; capital profit.
2. When may a profit be figured on work in process?
3. How may departmental efficiency be judged without carrying interdepartmental profits into the value of finished goods?
4. Name several sources of data for valuations of assets.
5. Define capital expenditures; revenue expenditures.
6. Summarize the principles of profit determination.

CHAPTER V

CORPORATE DIVIDENDS

1. Definition

A share of stock in a corporation, unlike an investment in its bonds, involves no obligation to pay the holder a fixed return of principal, interest, or dividends at any definite time. So far as property rights are concerned, it merely represents his proportionate interest in the earnings of the corporation when these are distributed and in its capital when the corporation is liquidated. If profits are earned they belong to the corporation and the stockholder has no method of getting hold of them until they are actually declared as dividends, i.e., ordered by proper action of the directors to be paid to the stockholders at some definite future time in the form of dividends. From the standpoint of corporation finance, therefore, dividends are the profits of a corporation which have been set aside by formal action of its directors for distribution among its shareholders, usually in proportion to their individual holdings of the stock on which the dividend is to be paid.

Quarterly, semiannually, or annually, as the case may be, the corporate books are balanced, the profits are determined and the directors decide what portion, if any, shall be withdrawn for division among the stockholders. If a distribution of profits seems advisable, a dividend is then formally declared, usually in the shape of a percentage on the par value of the stock, but sometimes as a fixed amount on each share. The amount received by each stockholder is therefore determined by the number of shares he holds.

In the case of close corporations—corporations where the entire stock and management is in the hands of a few individuals—corporate profits are occasionally distributed among the stockholders without the formality of a declaration of dividends and the proceeding is not legally objectionable if all the stockholders assent. Such informal distribution is usually accomplished by means of salaries that would, if it were not for their inclusion of profits, be unreasonably large. In such cases all the stockholders are also usually officials of the corporation and participate either equally or upon some agreed basis in this informal division of profits.

The distribution of profits in these irregular ways is entirely permissible if all the parties interested assent and no improper ends are to be attained thereby. When, however, such distributions of profit are made for the purpose of concealing the actual profits with a more or less fraudulent intent, as for instance to evade the payment of the income tax on profits, they are liable to be held as dividends paid under another name, "put in that guise for concealment and delusion."

2. Sources of Dividends

Under the common law, dividends may be paid only from profits. This common law has been re-enacted in some form in the statutes of practically every state in the Union. Under the New York law, for instance, it is unlawful for the directors of a stock corporation to "declare dividends except from the surplus profits arising from the business of such corporation." The statutes also provide that the directors shall not "divide, withdraw, or in any way pay to the stockholders or any of them, any part of the capital of such corporation, or reduce its capital stock except as authorized by law."

In some few states the requirements are much lower, the statutes merely providing that no dividends are to be declared that would render the corporation insolvent, or perhaps merely imposing a punishment for the declaration of such dividends. It is evident that under such provisions a material impairment of the actual capital might occur before the statutory limit was reached.

The purpose of the prohibition of dividends except from profits is to protect the stockholders and the creditors of the corporation. The capital of the company was contributed by its stockholders for the conduct of the company's business, and not for the purpose of being paid back to them in instalments masquerading as dividends. The stockholders, therefore, rightfully expect that the entire capital shall be devoted to the operations for which it was intended. Corporate creditors are likewise entitled to the protection arising from the retention of the company's capital in the company's business. A diversion of the capital in any part to any other purpose whatsoever is prejudicial to the rights of both stockholders and creditors.

One exception to the general rule that dividends may be declared only from profits may be noted. This is where companies are formed to operate "wasting" enterprises such as mines, quarries, oil wells, and patent rights. Here the corporation is organized for the express purpose of working out the property which is represented by its capital stock, the impairment and final exhaustion of this property being the object of the corporate operations. As stated in an English decision: * "Where a company is formed to acquire and work a property of a wasting nature—for example a mine, a quarry, or a patent—the capital expended in acquiring the property may be regarded as sunk and gone, and if the company retains assets sufficient to pay its debts, it appears to me that there is nothing whatever in the Act to prevent any excess of money obtained by working the property over the cost of working it from being divided amongst the shareholders, and this, in my opinion, is true although some portion of the property itself is sold and in some sense the capital is thereby diminished."

This decision has been generally followed in the United States and is regarded as establishing the rule. It must, however, be noted that in this case the assets of the company were ample and there was no question of insolvency or the charge of indiscretion in the declaration of dividends which formed the basis of litigation.

3. Profits Available for Dividends

As dividends may be declared only from surplus or net profits, the determination of what constitutes profits properly declarable as dividends is of much importance.

The general rule is that any increased values of the corporate assets over the corporate liabilities in any year are net profits. As stated by the United States Supreme Court: † "The term 'profits' out of which div-

* Lee v. Neuchatel Asphalte Co., L. R. 41 Ch. D. 1 (1889).
† Mobile, etc. R. R. v. Tennessee, 153 U. S. 486 (1894).

idends alone can properly be declared denotes what moneys remain after defraying every expense, including loans falling due as well as the interest on such loans."

If it were held that dividends could be paid only from surplus, i.e., the excess of corporate assets over capital stock and debts, the rule would require that each year before dividends might legally be paid from profits of that year, any prior impairment of the capital must be made good. That is, if a company meets with disastrous losses sufficient to wipe out its surplus and seriously impair its capital, its profits, possibly for a term of years succeeding, would have to be employed in the reinstatement of its capital and until that was accomplished dividends must be deferred. In New York this is the case as the statutes expressly provide that dividends shall be only paid out of surplus profits.

The courts, however, do not always enforce this rule. On the contrary, provided that the statutes of the state or the provisions of charter or by-laws do not prevent, and that the declaration of a dividend does not render the corporation insolvent or leave it in such an embarrassed condition as to render the dividend manifestly improper, no account need be taken of capital impairments of preceding years. Under such circumstances, "in estimating the profits for the year for the purpose of declaring a dividend, it is not necessary to take into account the difference in value of the assets and the impairment of the capital stock of the company prior to that year."*

Beyond this in most of the states the profits earned

* Cook on Corporations, § 546.

and invested or passed over to surplus in years of prosperity do not lose their character as profits, but, if insufficient profits are made in subsequent years, may be drawn upon for dividends.

While the laws as to dividends are construed in this liberal manner, excessive dividends should always be avoided as a matter of common business prudence. Speaking generally, a corporation in active operation should never declare dividends that will exhaust its surplus. On the contrary a sufficient reserve of surplus should be maintained at all times to support the corporate credit, to maintain an equality of dividends from year to year, and to meet the varying unforeseen contingencies which so frequently arise in the course of business operation.

The law is explicit in its ruling that dividends can only be paid out of profits, but legal and accounting opinions differ sometimes as to just what constitutes these profits. It is a general accounting principle that profits arising from increased values of corporate property are not properly applicable to payment of dividends—at least not until they are actually realized by sale of the property. The courts, however, have not always agreed, holding that if a corporation has the right to invest its surplus in securities—which is unquestioned—and if the securities appreciate in value, there is no reason why the profits arising from the investment cannot be considered as the profits of the business of the corporation. This, as suggested, is contrary to the accepted theory of sound accounting. The profits on investments which have not yet been realized can be based only on fluctuating market prices, and therefore it is generally held by accountants that the declaration of a dividend out of such profits is equivalent to the anticipation of profits for the purpose of dividend payments.

4. Revenue Expenditures and Capital Expenditures

Profits for the current year, although expended upon betterments, or existing in the form of property, may be made the basis of dividends. In this case money may be borrowed to pay such dividends, or the dividends may be declared in the form of stock, scrip, or bonds. Whether or not this should be done is a financial, not an accounting, matter.

A difficulty sometimes arises in connection with these betterments as to what expenditures of the kind may with propriety be charged to capital account and what should be charged to current expenses. Thus, if a manufacturing concern purchases machinery parts and charges them to capital account, the books will show a larger net profit for the year than if the item is charged to expense account. Or the question may arise as to whether some special case is one of repairs or replacement, the one being a charge to expense and the other a charge against a reserve for depreciation. The matter is one of bookkeeping and the actual assets of the company are not affected in either case, but its profits legally available for dividends are directly increased or diminished according to the account debited.

This question usually arises when the directors are anxious to divert every possible penny into dividends. The problem is a difficult one and its solution will vary with the conditions. "It may be safely said that what losses can be properly charged to capital and what to income is a matter for business men to determine and it is often a matter on which the opinions of honest and competent men will differ."*

5. Declaration of Dividends

It is a well-recognized principle of law that the directors of a corporation and they alone have power to declare dividends and to determine their amount. This right of the directors to declare dividends is incident to their general power to manage the affairs of the corporation and is recognized directly or by implication by the statutes of every state of the Union. The right is, of course, subject to any modification imposed by the statutes of the state, or by any charter or by-law provisions which may apply, but beyond this the whole matter is in the directors' discretion.

As already stated, statutory provisions prohibiting dividends that will impair the capital or that will render the corporation insolvent, are found in practically every state of the Union. It is but seldom that the statutes go further in respect to dividends. The charter or by-laws, however, frequently go much further. In some cases they provide that a specified surplus shall be attained and maintained before any dividends may be declared; in other cases they specify that after the reservation of a designated surplus, any remaining profits shall be declared as dividends. Occasionally the matter is reversed, the by-laws requiring that dividends to a specified amount shall be declared before any profits may be reserved as surplus. Such a by-law provision is,

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* Gregory v. Patchett, 33 Beav. 595 (1864).

as a rule, obviously undesirable as it compels the declaration of dividends regardless of the business conditions which should control.

Usually, before the date fixed by the charter or by-laws for the declaration of dividends, or if no such date is fixed, at the time a dividend is contemplated, the treasurer is called upon for a statement showing the corporate profits available for the purpose. If, however, the corporation has ample surplus profits, or if the business is so prosperous as obviously to justify the proposed dividend, no statement is required, the directors merely declaring the dividend as a matter of course.

When the fact and the amount of the dividend have been decided upon, a formal resolution declaring it is adopted by the directors. This resolution usually fixes specifically the amount of the dividend and states to whom and when it shall be paid. The amount is ordinarily expressed as a percentage of the par value of the stock, though sometimes as a fixed amount per share. The recipients must necessarily be stockholders of the company but are usually stockholders of a specified future date, and the time of payment is usually fixed at a still later future date.

The directors have full power to declare a dividend effective at any future date but they cannot antedate a dividend. Thus the directors could not on January 1 legally declare a dividend payable to stockholders of record on the 15th of the preceding October. The power to do so would open a wide door for injustice and fraud.

The resolution declaring a dividend usually provides for the closing of the stock books to transfers of stock for a certain period before the dividend day, i.e., the day when the dividend is to be paid. This provision for closing the transfer books is usually and properly part of the charter or by-law requirements of the corporation. It is questionable whether the directors would have power to close the transfer books unless so authorized. The reason for, and the effect of, this closing of the transfer books is discussed in § 11.

6. Forcing Declaration of Dividends

As already stated, the charter or by-laws of the company may provide more or less specifically as to when or under what conditions dividends shall be declared, and as long as such requirements are in harmony with the state laws, the directors must observe them. If they do not, the stockholders may compel such observance by legal procedure.

In the absence of any such provisions or within the limits of these provisions, the directors have wide discretion as to dividends. They are responsible for the proper management of the corporation and, particularly in the matter of dividends, are held to strict accountability by the law, and they are therefore entitled to the free exercise of their judgment as to when and to what amount these dividends shall be declared.

The courts are reluctant to compel dividends, but there is a point at which they will intervene to prevent undue or improper retention of profits. The directors must act in good faith. If they fail to do so, and it clearly appears that they have accumulated earnings not required in the prosecution of the business which they withhold unnecessarily and improperly from the stockholders, a court of equity may interfere and compel a distribution of such earnings. The courts will not, however, interfere with the management of the directors and compel them to declare dividends unless it is clearly made to appear that they refuse to do so when the corporation has a surplus of net profits which it can, without detriment to its business, divide among its stockholders, and when their refusal is such an abuse of discretion as to constitute a fraud or breach of that good faith which they are bound to exercise toward the stockholders.

7. Participation in Dividends

Unless different classes of stock have been created, the profits belong to the stockholders in proportion to their holdings of stock and the directors in declaring dividends have no power to vary this rule. This applies, however, only to stockholders of the same class. If different classes of stock have been created, these may be given different dividend rights. Thus, preferred stocks may be created with preferential dividends which they receive before other classes of stock receive anything at all. The difference is, however, intentional, understood by all parties, and no injustice results therefrom.

As between the members of any one class of stockholders, dividends must be paid with absolute impartiality, the number of shares of stock held determining the amount received when dividends are paid. Also the time of payment and the method of payment must be the same for all. Some cannot be paid in cash while others are paid in stock or scrip, unless by agreement of the interested parties. Without such agreement, all must fare exactly alike.

8. Status of Declared Dividends

The property of the corporation is not the property of the individual members. They have an interest in the corporation property, and in fact, through the corporation, own it, but their interest is undivided and they as individuals have no direct control. When, however, a dividend is declared from net profits, its amount is immediately transferred from corporate ownership to the ownership of the stockholders, and this is true though no definite date or some future date was fixed for payment at the time the dividend was declared. This being so, it follows that once publicly declared, a dividend is irrevocable—save in the case of an illegal dividend which may be rescinded at any time before its payment—and as soon as the date arrives upon which it is payable it becomes a debt due from the corporation to the stockholders, enforcible by legal procedure. This debt stands on a parity with the other corporate debts; should the corporation become insolvent before such dividend is paid, the stockholders take their place among the other creditors of the corporation and may enforce their claim as would any other corporate creditor.

As a declared dividend is a debt due from the corporation to the stockholder, any existing indebtedness of the stockholder to the corporation may be offset against the dividend and may be deducted from it, provided the debt is actually due at the time the dividend is payable.

9. To Whom Paid

A stockholder of record is one whose name appears upon the stock books of the corporation as an owner of its stock. Dividends are ordinarily payable to those who at the time the dividend becomes effective are stockholders of record. The stock book, therefore, at this time, shows to whom the dividend must be paid.

The rule is not, however, invariable. It may be that stock is pledged and the pledgee has not had the stock transferred to his own name, though dividends are payable to him. Or occasionally it happens that stock has been sold before the declaration of the dividend, but the transfer, through neglect or other cause, has not been recorded on the books. The equitable ownership of the stock and the right to the dividend then vests in the party to whom the stock has been assigned, but the ownership of record, and therefore the technical ownership of the dividend, still remains in the former owner.

The treasurer, in the absence of notice, has no concern as to these equitable owners. The stock books of the corporation are conclusive for his purposes until their evidence is superseded by the presentation of duly assigned certificates or other satisfactory evidence of a different ownership, or by information that would put the corporation "on notice." Therefore, even though it proves later that the holder of record is not the rightful owner of the dividend, the treasurer and the corporation are protected in payments made according to the unimpeached record of the stock books. They have used all reasonable care and cannot be held for the results of negligence on the part of others.

If, however, the treasurer or the corporation receives notice of some unrecorded transfer involving the ownership of the dividend—i.e., a transfer made before the dividend became effective or perhaps thereafter with an assignment of the dividend—the treasurer is bound to take notice of the facts and pay the dividend to the rightful owner.

As the stock books, if unimpeached, control absolutely, the production of a stockholder's certificate of stock before dividends will be paid to him cannot be required, nor can he be required to bring other proof of either his ownership of the stock or of the dividends. If, however, the true ownership is not that shown by the stock book, the duly assigned certificate of stock is good evidence thereof and sufficient to justify the treasurer in paying the dividend to the assignee provided only that the assignment was made before the effective date of the dividend.

If there is any real doubt as to whom a dividend is properly payable, the treasurer's only safe course is to withhold payment until the matter is satisfactorily settled by the parties themselves, or until the ownership of the dividend is determined by proper legal procedure. This litigation may involve only the disputants but it may also be directed against the corporation. If in any case the corporation is likely to suffer, it may interplead and ask the court to decide to whom the dividend belongs.

In case stock stands in the name of a married woman, the treasurer must pay the dividends declared thereon to the wife or to the husband according to the requirements of the state in which the corporation is chartered. In most states of the Union dividends are payable to the wife when stock stands in her name.

If stock is pledged, the pledgee is entitled to any dividends declared meanwhile even though he is not a stockholder of record, provided the corporation has had due notice of the pledge. But the pledgee must account for these dividends to the pledger when the pledge is redeemed.

If a corporation holds stock of other corporations, it is entitled to receive dividends on this stock as is any other stockholder. It cannot, however, pay dividends on its own stock held in its own treasury. When dividends are payable to a corporation, the dividend check may be made either in the name of the corporation, or to the treasurer as the treasurer of the corporation. If stock belongs to an estate, payment of dividends should be made to the executor or administrator. If, however, the stock passes to a legatee, all dividends declared after the date of the testator's death belong to the legatee, but if any dividends have been declared before that date but are not yet paid, they will belong to the general estate.

10. Notice of Dividends

The directors of a corporation have full power to fix the amount, and, within the bounds of reason and good faith, the time and place of payment of dividends, but the stockholders must be given due notice.

When dividend checks are not mailed, notice must be given the stockholders of the time and place at which dividends will be paid. These notices are sent out by the treasurer or the secretary, according to the regulations of the particular corporation. The officer sending the notices must be governed absolutely by the stock book, unless he has personal knowledge or has received formal notice of the fact that some particular stockholder of record is not the stockholder in fact. The party to whom the dividend is to be paid is always the proper party to notify. If there is doubt in any particular case as to whom a dividend is to be paid, responsibility may be avoided by sending notices to all the parties interested, leaving the ownership of the dividend to be settled later.

In some of the larger corporations, notice of a dividend, giving the time and place of payment and the period for which the stock books are closed, is usually mailed to every stockholder and is published in the newspapers as well—this latter not entirely as a legal requirement but as a general notification to the stockholders and to the general public that the corporation is paying dividends. Newspaper notice alone is held to be insufficient notice.

The larger corporations when paying dividends usually mail checks to the stockholders, and this, if properly done, avoids any possibility of failure of notice. The dividend checks are nothing more than orders upon the bank for payment of the amount due the stockholder, but the recipient of such a check has in the check itself sufficient notice of the time and place for the payment of his dividend. Where checks are mailed, a newspaper notice of dividends is usually deemed entirely sufficient.

11. Payment of Dividends

It is customary to close the stock books a certain number of days before a dividend is to be paid, in order to give the treasurer an undisturbed opportunity to make up his dividend statement from the books. The "closed" period usually begins on the effective date of the dividend, i.e., the date which fixes the ownership of the dividend, and continues until the date of its payment, or if this period is lengthy, for such reasonable time as will enable the treasurer to secure from the books the data he requires for his dividend statement. During this period no transfers of stock will be made.

As a rule the closing of the transfer books works no hardship. The dividend as declared is payable to the stockholders of record on a certain date and the books are not usually closed until the day of this effective date. Transfers of stock made after that date do not, therefore, carry the dividend, unless by special agreement between the parties, and the fact that the transfer cannot be immediately recorded is in most cases immaterial. If transfers prior to the declaration of the dividend have not been recorded, such stockholders are, of course, shut out, and to secure the dividend which rightfully belongs to them, they must file due notice and evidence of the facts with the treasurer.

As soon as the stock books are closed, the treasurer is furnished by the secretary with a list of the stockholders of record as they appear on the date of closing, or otherwise the stock books are turned over to him and he secures the names and addresses of the stockholders himself. The treasurer then makes up his dividend statement, showing the amount of stock held by each stockholder and the amount of dividends due him. The checks for dividends are made out and on the appointed date are mailed to the parties to whom they are due, or if it is not the company's custom to mail the dividend checks, the stockholders are notified to call and receive their dividends in person.

12. Form of Payment

Dividends are usually paid in cash and, unless otherwise stated, cash payment is always understood. Dividends may, however, be declared from existing profits regardless of the form of these profits. "The surplus may be in cash and then it may be divided in cash. It may be in property and if the property is so situated that a division thereof among the stockholders is practicable, a dividend in property may be declared and that may be distributed among the stockholders." *

If the profits are not in the form of cash and not in a form to be distributed directly as property among the stockholders, the property might be sold or be used as a basis for a loan of cash to be used in payment of dividends. Or if the directors do not care to dispose of or encumber the property which represents profits, or if they wish to reserve all available cash for the use of the corporation, dividends may be declared in several different forms:

1. The capital stock may be increased and this increase be distributed as a stock dividend, or any unissued or treasury stock on hand may be used for the purpose.
2. Bonds may be issued to the amount of the dividend and these bonds be distributed.
3. Scrip may be issued against the profits and this scrip be distributed as dividends.

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* Williams v. W. U. Tel. Co., 93 N. Y. 162 (1883).

Dividends in all these different forms, if issued under proper conditions, are held to be legal.*

13. Stock Dividends

In some few states stock dividends are prohibited by law, as in Massachusetts. Even here, however, the end is practically accomplished by the declaration of a cash dividend to the stockholders, which is then a debt due from the corporation to its stockholders. A simultaneous offering of stock to an equal amount is made and this stock is purchased by the stockholders, their indebtedness therefor being offset by dividends due.

In most of the states, however, no such restriction exists and stock dividends are not uncommon, and, under proper conditions, are not legally objectionable. If the directors wish to retain the corporate profits to increase the capital of the corporation, "it becomes immaterial whether such increase is made by awarding the stock to stockholders as dividends in lieu of money, retaining the money for the purposes of the company, or by paying the stockholders the dividends in cash from the earnings of the company and selling the stock in the market to raise money for the use of the corporation." † Or, as stated in a later case: "So long as every dollar of stock issued by a corporation is represented by a dollar of property, no harm can result to individuals or the public from distributing stock to the stockholders. . . . All that can be required in any case is that there shall be an actual capital in property representing the amount of share capital issued." ‡

* Williams v. W. U. Tel. Co., 93 N. Y. 162 (1883).
† Howell v. Chicago, etc. Ry. Co., 51 Barb. (N. Y.) 378 (1868).
‡ Williams v. W. U. Tel. Co., 93 N. Y. 162 (1883), Earl, J.; Rose v. Barclay, 191 Pa. St. 594 (1899).

It will be observed that a stock dividend of the kind here considered is entirely different from that derived from "stock watering," in which the new stock does not represent profits at all but is merely a dilution of the existing capital and thus is illegal and objectionable.

14. Bond Dividends

The corporate bonds may take the place of cash in payment of dividends at the discretion of the directors, provided only that they are issued against actual profits. The argument for their issue is the same as for the issue of stock as dividends. If the company has profits available for dividends, it may take these profits for corporate purposes and replace them with bonds, distributing these bonds as dividends.

15. Scrip Dividends

The favorite method of paying dividends, when neither stock nor bonds are available or expedient, is by means of scrip. This is practically a deferred dividend, scrip being a certificate stating that the owner or holder is entitled to certain rights or privileges specified in the certificate—usually a certain amount of cash payable at some fixed future date. In the issue of scrip dividends the same rule obtains as in the case of any other dividends. Profits must exist as a basis for their issue.

Usually scrip represents existing profits which are not in the form of money but which may be realized upon at some future date and the money then used to pay off this scrip. Or there may be no intention that the corporate property shall be realized upon, the expectation being that at the time the scrip becomes due, cash will be on hand for its payment without regard to whether the property in question is sold or not.

Sometimes, however, scrip represents an absolute reservation of cash profits. Some other need for this cash is deemed more urgent than the immediate necessities of the stockholders, and the directors thereupon declare a scrip dividend and divert the cash to these other needs. The stockholders' right to dividends is then formally recognized but payment of this dividend is deferred to a more convenient day. The date of payment for this scrip dividend is entirely in the discretion of the directors and is usually fixed on the basis of convenience in meeting the obligation.

Scrip is issued in many different forms. Sometimes the certificates are convertible, being exchangeable at a certain time for stock or bonds of the company on demand of the holder. Sometimes they are payable at a date certain; sometimes not until money for their payment is received from some specified source. At times scrip certificates entitle the holders to dividends as would stock to the same value. The scrip then partakes much of the nature of stock save that it has no voting power.

16. Property Dividends

Dividends may be paid in actual property, although, except in the case of corporate securities, there are obvious difficulties in the way of distribution which make such dividends rare. Thus a company whose profits were in land might divide this land among its stockholders as a dividend, if it could do so equitably, and no objection could be raised. The more usual form of property dividends is, however, that of securities of other corporations, received when the corporation sells property or rights of some kind to another corporation, taking the stocks and bonds of that other corporation in payment. Or securities may have been bought outright at some previous time, and the stock and bonds so received might be divided among the stockholders of the receiving company as dividends. There are no objections to such dividends provided they represent actual profits. In 1916 one of the great manufacturers of war supplies paid a dividend in Anglo-French 5% bonds.

Usually, however, dividends of this kind are declared only when a corporation is liquidated, all its property perhaps having been exchanged for stock or bonds, or both, of the purchasing corporation. In this case the distribution is not, strictly speaking, a payment of dividends but is a distribution of assets, and the ordinary rule that dividends may be declared only from profits does not apply.

REVIEW QUESTIONS

1. When may dividends be declared out of capital?
2. Is it lawful to borrow money for the purpose of paying a dividend?
3. What rights have stockholders as to dividends?
4. How may dividends be paid?
5. What is a scrip dividend?
6. Why are stock transfer books usually closed before dividends are paid?

CHAPTER VI

ACCOUNTING FOR DIVIDENDS *

1. Procedure for Payment of Dividends

When a dividend is declared, it becomes a liability of the corporation and should at once be brought on the books. Its amount is credited to Dividend account and debited to Profit and Loss or Surplus.

In the smaller corporations dividends are usually paid by check on the general bank account, just as in the case of any other company payment, Cash account being credited and Dividend account debited as the dividend checks are drawn. In the larger corporations it is usual to draw one check payable to the bank for the total amount of the dividend, this check being entered in the cash book and posted to Dividend account in the ledger. This closes the ledger account, and the general books of the company are no longer concerned with that particular dividend, no matter how long some of the stockholders may hold dividend checks before cashing them.

When a check is drawn for the total of the dividend, this check is deposited in the bank to the credit of a special account—as for instance, "Kingston Steel Works—Dividends" or "William Kingston, Treasurer" —or even in another bank than that in which the corporation keeps its main deposit, and the individual dividend checks are drawn on this account, a special check book being used. These checks are mailed or otherwise

* Adapted by permission from Bennett's "Corporation Accounting."

delivered to their owners, and, from the bank's statement of the dividend account, it can be seen at any time which stockholders, if any, have not, up to that time, drawn their money. This does not affect the general books of the corporation, however, because the entire matter is now outside the usual course of business; and even though there are outstanding unpaid dividend checks, the balance in the account need not necessarily show on the balance sheet.

Instead of the plan just outlined, some few of the larger corporations make no entries for dividend payments on the cash book until the dividend checks are paid at the bank. As reports are received from the bank, entries are made debiting Dividend account and crediting Cash.* Under this plan the credit balance of the Dividend account will show at any time the amount of the dividend still unpaid. It is not unusual for dividend checks to remain unpaid for a considerable time or even indefinitely, in which case this plan of recording dividend payments has some advantages. The Cash account in this case is also made to show its real status, so that dividend checks outstanding do not have to be deducted in arriving at the correct balance of the dividend cash.

The larger corporations with many stockholders usually have specially printed dividend checks, giving the date and number of the dividend. By means of an addressing machine, the name and address of the stockholder are stamped on the face of the check, and the amount is filled in on the typewriter or other printing

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* Daily statements are received from the bank along with canceled checks from the previous day.

machine. After the checks and amounts are verified, proved on the adding machine, and signed by the proper officials, they are placed in window envelopes for mailing.

2. Dividend Sheet or Book

The practice of setting aside each quarter or half-year in a separate bank account the exact amount required for the payment of dividends, and drawing special checks against this fund, keeps dividend cash entirely separate from the general cash of the company. To facilitate payment to the stockholders, a dividend sheet or book (Forms 1 and 2) should be prepared. As the checks are paid a record may be made in this book, if desired, but where the names are numerous this is hardly worth while.

The dividend sheet or book contains a list of the stockholders entitled to receive dividends, with date of dividend, amount and number of each check, etc. This list is usually made up from the stock ledger each time a dividend is declared, after the transfer books are closed, though in the case of companies with but few stockholders such a list is not necessary. When the stockholders are many and the stock is active, it is very necessary that these lists be compiled, and that care be taken in checking up and proving the amounts which are to be paid.

The bound dividend book is used, if at all, only by small companies whose stock is not active. The larger corporations use the loose-sheet book. The two examples of dividend sheet shown in Forms 1 and 2 illustrate two methods of paying dividends.

GAINTOWN IRON CORPORATION

Dividend No.______ Declared __________19__ Sheet No._____

Date of Record________ Per Share _____ Payable________19__

	NAME OF STOCKHOLDER	TO WHOSE ORDER CHECK SHOULD BE DRAWN IF DIFFERENT FROM THAT OF STOCKHOLDER	MAILING ADDRESS	NUMBER OF SHARES	AMOUNT OF DIVIDEND PAID	NO. OF CHECK ISSUED IN PAYMENT THEREOF

Form 1. Dividend List—Payment by Mail

HILLSPORT MANUFACTURING COMPANY

Semi-annual Dividend No. 24________19__ 4%

	NAME OF STOCKHOLDER	ADDRESS	NUMBER OF SHARES	AMOUNT OF DIVIDEND	WE HEREBY ACKNOWLEDGE RECEIPT OF THE ACCOMPANYING DIVIDEND.

Form 2. Dividend Book—Personal Payment

Where stockholders come to the office of the corporation or to the bank for their dividends, a space is left on the dividend sheet for their signatures. Some companies prefer to have stockholders call for their dividends as it keeps them in touch with the corporation and its business. Most companies, however, have adopted the plan of mailing dividend checks, and these are always made payable to the order of the individual. The indorsement of the check is then considered a sufficient receipt, and the receipt column of the dividend book is unnecessary.

3. Entries for Cash Dividends

To illustrate a simple form of entering cash dividends, suppose the net profits of the Kingston Steel Works for the year just passed amounted to $38,690.40. The directors have declared the regular annual dividend of 5% on the $500,000 of outstanding paid-up capital stock, payable in cash in ten days from the profits for the year, the remaining profits going to surplus. The dividend is the seventh annual dividend that has been declared.

The entries for the declared dividend and for paying it are as follows:

January 7

Profit and Loss	$38,690.40	
Dividend No. 7		$25,000.00
Surplus		13,690.40
Seventh annual dividend of 5% on the outstanding capital stock of the company, declared this day by the board of directors and payable January 17.		

January 17

Dividend No. 7	25,000.00	
Cash		25,000.00
For payment of Dividend No. 7.		

Frequently no Dividend account is opened, in which case the dividends paid are charged direct to Profit and Loss or to Surplus account, the entries for the foregoing transaction being as follows:

January 7

Profit and Loss	$38,690.40	
Surplus		$38,690.40
Net profits transferred to Surplus.		

January 17

Surplus	25,000.00	
Cash		25,000.00
Payment of seventh annual dividend of 5 % on the outstanding stock of the company, declared January 7 by the board of directors and payable January 17.		

If a special bank account is set apart for dividend checks, the transfer of dividend cash is made as explained in the preceding section, by drawing one check for the required amount, Dividend or Surplus account being debited and Cash credited. The individual checks are then issued by the officers in charge of the dividend disbursements.

When dividends are paid quarterly, the current credit entries to Dividend account are sometimes omitted entirely, the cash payments being debited to Dividend account, which once or twice a year is closed into Surplus account.

4. Entries for Dividends Paid with Borrowed Money

It is not unusual for even the most prosperous company to be temporarily short of ready cash to meet dividend payments. The current assets may be three times as much as the current liabilities, and yet consist largely of notes and accounts receivable which cannot be used to pay dividends. In such cases the directors may borrow money to pay a dividend. In that event the following entries may be made, the first a journal entry, all the others cash book entries:

January 5		
Surplus	$10,000.00	
Dividend Payable		$10,000.00
Dividend of 5% declared this day on capital stock of the company. Payable in cash January 15.		
January 13		
Cash	10,000.00	
Notes Payable		10,000.00
Three months' note discounted at First National Bank to secure funds for payment of dividend due January 15.		
January 13		
Discount	150.00	
Cash		150.00
Discount at 6% on company's three months' note of $10,000.		
January 15		
Dividend Payable	10,000.00	
Cash		10,000.00
Payment of dividend of 5% on capital stock of the company.		

5. Entries for Scrip Dividends

Another way to pay a dividend when the corporation is temporarily short of cash is by an issue of scrip. Under such circumstances, the Novelty Manufacturing Company with a capital stock of $1,500,000, $1,000,000 being common stock and $500,000 preferred stock, declares its regular annual dividend of 3% on both issues, payable in scrip. Dividend declared May 15, 1920, payable June 15, 1920; scrip payable in cash June 15, 1921.

The journal entries for the declaration and payment of this annual 3% scrip dividend on the common and preferred stock are as follows:

May 15, 1920

Surplus	$45,000.00	
Dividend, Common		$30,000.00
Dividend, Preferred		15,000.00
Annual dividend of 3% on both common and preferred stock declared this day, payable June 15, 1920, in scrip of the company, maturing June 15, 1921, and bearing interest at 5%.		

June 15, 1920

Dividend, Common	30,000.00	
Dividend, Preferred	15,000.00	
Dividend Scrip (or Scrip Payable)		45,000.00
Dividends paid this day in scrip maturing June 15, 1921, and bearing interest at 5%.		

When the scrip matures, an entry similar to the following is necessary:

June 15, 1921

Dividend Scrip	$45,000.00	
Interest	2,250.00	
Cash		$47,250.00
For payment of dividend scrip maturing today, with interest from June 15, 1920, at 5%.		

6. Entries for Special and Interim Dividends

Occasionally, after a very prosperous year or a longer period of prosperity, during which a large surplus has been accumulated, the directors declare a "special dividend" or "bonus" in addition to the regular dividend.

To illustrate the entry of such dividends, assume that a corporation with $1,000,000 capital stock, and profits for the year of $225,400, declares its seventeenth regular annual dividend of 7% and at the same time declares its first special dividend amounting to 2%, and awards to its employees a bonus of 10% of the net earnings of the year just ended. The entries are as follows:

January 5

Surplus	$112,540.00	
Dividend No. 17		$ 70,000.00
Special Dividend No. 1		20,000.00
Bonus to Employees		22,540.00
Per resolution passed this day by the board of directors declaring the regular annual dividend of 7% on the capital stock of the company; an additional dividend of 2%; and awarding to the employees a bonus of 10% of the net earnings of the year just ended; all payable in cash on the 15th day of January.		

	January 15	
Dividend No. 17	70,000.00	
Special Dividend No. 1	20,000.00	
Bonus to Employees	22,540.00	
Cash		112,540.00
For payment of dividends and bonus provided for in resolution of the board of directors passed January 5.		

Special dividends declared between the regular dividend dates are called "interim dividends," and are declared when unusual profits exist to justify a special dividend, or when for some reason it is desired to anticipate the regular dividend in whole or in part. When dividends are paid quarterly, as is the case with most of the larger corporations, an interim dividend is seldom if ever declared. The entries in case of interim dividends would of course be the same as those of a regular dividend.

7. Entries for Dividends Applied to Stock Subscriptions

A contract between a corporation and a subscriber to its stock providing that his subscription shall be paid by dividends on the stock subscribed for, is held by the courts to be invalid both as against the corporation and against corporate creditors. Any dividends actually declared before a stock subscription is paid could, however, be credited against it and would be a valid payment.

To illustrate the entries when dividends are to be applied on a stock subscription, let us suppose that \$200,000 par value of new stock of the Kanawha Iron Works (shares \$50 each) has been offered for sale to provide funds for the erection of additional buildings; that all this has been subscribed, and a first instalment of 50% has been paid upon it. John Smith is a subscriber for 10 shares. On January 5, the board of directors passes a resolution calling for the final instalment of 50% on the entire subscribed stock, payable February 1. On February 3, at which time John Smith has not paid the final instalment on his stock, the directors declare an annual dividend of 5% on the entire outstanding stock ($500,000), payable February 15. The entries for these transactions are as follows:

January 5

Final instalment on Stock (or Instalment No. 2)	$100,000.00	
Subscriptions		$100,000.00
Per resolution passed this day by the board of directors, calling for the final instalment of $100,000 on $200,000 of capital stock of the company.		

This entry will close the Subscriptions account, substituting for it the Final Instalment account. Assuming that all the stockholders have paid the first instalment in full, the First Instalment account is already closed.

February 1

Cash	$99,750.00	
Final Instalment on Stock		$99,750.00
Payment of final instalment on capital stock.		

This, of course, would be comprised in cash book entries showing the names of the stockholders and amount paid by each. To simplify the illustration, it is assumed that all except John Smith have paid this final instalment at the time the dividend of February 3 was declared.

February 3		
Surplus	$25,000.00	
Dividend No. 5		$25,000.00
The board of directors have this day declared the regular annual dividend of 5% on the capital stock of the company, payable in cash on the 15th day of February.		
February 15		
Dividend No. 5	24,975.00	
Cash		24,975.00
Dividend paid this day as per resolution of the board of directors, February 3.		
February 15		
Dividend No. 5	25.00	
Final Instalment on Stock		25.00
To apply dividend of John Smith as part payment of final instalment of $250 due on 10 shares of capital stock of the company.		

8. Entries for Cumulative Dividends

Preferred dividends for the current year must usually be paid before dividends may be paid the holders of common stock; and if the preferred stock is "cumulative," all dividends on it which have been "passed" in former years must be paid in full before the common stock can participate.

To illustrate the difference between the two kinds of stock, suppose a company with preferred stock calling for 7% dividends has "passed" all dividends for two years, and at the end of the third year desires to pay a dividend on the common stock. If the preferred stock is cumulative, it will first have to pay all the "passed" dividends on the preferred stock amounting to 14%, and the current dividend as well—21% in all; while, if the preferred stock is non-cumulative, it need pay only the current dividend of 7%.

Although the preferred stock dividends must be paid before the common stock can receive any share of the profits of the corporation, these dividends do not become an obligation of the company until they are formally declared by the board of directors. It would seem, therefore, to be poor accounting to enter them on the books as an obligation at the time they are passed. It is necessary, however, that the unpaid cumulative dividends be shown on the balance sheet, and this is best done by means of a footnote stating the amount of the contingent liability for the dividends which have been passed.

Where a preferred dividend is passed but it is desired that it be shown on the books, it may be done by an entry similar to the following:

Surplus	$30,000.00	
Unpaid Preferred Dividend		$30,000.00
For 1920 preferred dividend of 6% not declared by the board of directors but ordered to be shown upon the books.		

This might make the Surplus account show a debit balance, and in any event it would be reducing surplus for the sake of a liability which was only contingent. Instead of charging the dividend against surplus, it might therefore be a better plan to set up the following suspense account to offset the contingent liability of the unpaid preferred dividend:

Dividends—Preferred Stock	$30,000.00	
Unpaid Preferred Dividends		$30,000.00
For 1920 preferred dividend of 6% not declared by the board of directors but ordered to be shown upon the books.		

9. Entries for Stock Dividends

Sometimes the directors declare a "stock dividend" instead of a cash dividend. To illustrate the entries in such a case, suppose that the Michigan Furniture Company, with an authorized capital stock of $1,000,000, has had a very prosperous year, its profits amounting to over $200,000, but the directors desire to invest most of their available funds in additional shops and machinery. Their regular annual dividend is 10%. Only one-half of the authorized capital stock has been issued. The regular 10% dividend is declared, but instead of being payable in cash it is made payable in stock of the company.

Surplus	$50,000.00	
Dividend No. 4		$50,000.00
A dividend of 10% on the $500,000 outstanding capital stock of the company has this day been declared by the directors, payable in stock of the company.		
Dividend No. 4	50,000.00	
Capital Stock		50,000.00
Stock issued to pay stock dividend of 10%.		

If the unissued stock is being carried on the books in Unissued or Unsubscribed Stock account, the second entry would be a credit to that account. If the dividend were paid out of treasury stock, Treasury Stock account would, of course, be credited.

10. Entries for Bond Dividends

Corporate bonds may, at the discretion of the directors, take the place of cash in the payment of dividends, provided only that they are issued against actual profits. To illustrate the entries when this is done, suppose that in the preceding example the directors, with the consent of the stockholders, had paid the dividends in bonds; the entries would be as follows:

Surplus	$50,000.00	
Dividend No. 4		$50,000.00
A dividend of 10% on the capital stock of the company has this day been declared by the directors, payable in the first mortgage treasury bonds of the company.		
Dividend No. 4	50,000.00	
First Mortgage Treasury Bonds ..		50,000.00
First mortgage 4% treasury bonds given to stockholders in payment of 10% dividend on the stock of the corporation.		

11. Entries for Property Dividends

The entries when a property dividend is declared are similar to those for bond dividends, the proper securities or other property accounts being credited in the second entry.

12. Illegal Dividends

Although the laws of all of the states forbid the payment of dividends if such payment results in the impairment of capital, there are more or less frequent infractions of this rule. The fact that a dividend has been paid out of capital may not be known to anyone except the directors; in fact, the directors themselves are sometimes ignorant of such an occurrence, owing to the fact that they will not take the trouble, or have not sufficient knowledge of accounting, to inform themselves of the true condition of the company. Yet they may be held liable by the courts for any loss to creditors occasioned by the payment of dividends out of capital.

Errors as to profits may arise from many causes. The books of the company may show a surplus of earnings which in reality does not exist, perhaps because no provision has been made for bad debts or depreciation; or materials have been included in the inventories which have not yet been credited to Accounts Payable; or merchandise may have been valued at the selling price; or orders for future delivery may have been recorded as sales; the book value of real estate may have been written up; assets with no value, such as patents and copyrights which have expired, may still be carried upon the books; judgments against the company may have been omitted from the accounts. These and other errors may have been made which hide the fictitious character of the apparent profits, so that the payment of dividends under such conditions results in an impairment of capital. An examination by a competent auditor would, of course, disclose any such errors and prevent the declaration of illegal dividends.

In case accounting errors are discovered which have resulted in a fictitious surplus, the proper charges must be made to show the true condition. This may, if dividends have been declared or other expenditures have been made on the strength of the supposed surplus, result in a debit balance in Surplus account. It is perfectly proper to allow this debit balance to remain on the ledger until wiped out by the accumulating profits, but in the balance sheet it should be placed on the asset side and called "Deficit"; yet in financial statements it is not unusual to see it deducted from the capital stock.

REVIEW QUESTIONS

1. What information should be given on a specially printed dividend check?
2. Describe several methods of recording dividends when they are (a) declared and (b) paid.
3. What is a scrip dividend and how is it recorded?
4. Can dividends be applied against stock subscriptions receivable? If so, illustrate the book entrics required.
5. What is the best way of recording in the accounts the amount of undeclared, cumulative preferred dividends?
6. Give pro forma entries to record stock dividends; bond dividends.
7. How can illegal dividends be inadvertently declared?

CHAPTER VII

SURPLUS—NATURE AND SOURCES

1. Definition and Nature of Surplus

The excess of the assets of a corporation over its liabilities and capital stock is called surplus. Surplus in the balance sheet ordinarily designates the amount of the profits withheld from distribution for the purpose of establishing a permanent addition to the effective capital of a concern. In a partnership or a single proprietorship business, the profit balance is retained as capital by being added to the proprietor's capital account. In a corporation the profit balance is retained as capital by being added to the Surplus account.

The term does not imply any specific use to which the surplus is to be put and is thus the most comprehensive of all terms used to designate reserved profits. In England the term "rest" is the equivalent of surplus, and in Canada the surplus is called the "reserve fund." In Germany "reserve" is the common term, there being no equivalent to surplus.

Though the accumulated profits which are invested in the business are surplus, surplus need not necessarily consist of accumulated profits only. The term may include items other than realized profits, in which case the source from which the surplus is derived, if the amount is relatively important, is usually indicated on the balance sheet. Where a surplus exists, it is maintained as a measure of safety to strengthen the financial condition of the company and to safeguard it against unforeseen contingencies.

2. Sources of Surplus

A surplus may be specially created on the organization of an enterprise. Stockholders, for instance, frequently donate to the treasury of a corporation part of their stockholdings to be sold for cash, thus providing working capital and creating a surplus not derived from profits. On the organization of a bank, stock is frequently subscribed for at a premium, the premium constituting a capital surplus to be held in reserve and not to be distributed as profits. Surplus may also result from the revaluation of assets, from their sale at a profit, or from the purchase of the corporation stock at a discount. Conservative accounting requires that the source from which the surplus is derived be shown on the books and that the amounts in each case be truly stated.

Special surplus accounts, as for example, Real Estate Surplus, Surplus from Premium on Capital Stock, may be set up to take care of substantial changes in the value of capital assets and to distinguish between surplus arising from earnings and that from other sources. As a general rule, however, any increase in the value of the fixed assets of a business due to changing economic conditions should not be taken up in the accounts nor should the book values of assets ordinarily be changed if they decrease. If the management insists upon recording an estimated profit resulting from economic causes the increase should be credited as stated above.

If the Profit and Loss account fails to absorb all the expense of operation, both profits and surplus will be overstated. If capital expenditure is charged to revenue, the costs of operation are unduly increased and certain assets are undervalued; if a revenue expenditure is charged against capital, the expenses are less than they should be. In the first case, the surplus shown on the books is less than the actual surplus; in the latter case it is overstated.

3. Surplus and Undivided Profits Account

As a ledger account, Surplus is more common to the corporate form of bookkeeping. This is so because, as previously noted, in a business conducted by an individual or firm, the balance of the Profit and Loss account is usually disposed of through the Capital account or accounts, as the case may require, and no surplus as such is accumulated. If, however, it is desired to accumulate the profits in whole or in part and show the accumulation in a separate account, the amount so retained from the Capital account or accounts is transferred at the close of each fiscal period to Surplus account. If the business should show a loss, the debit balance of Profit and Loss account should be transferred either to the Capital account or accounts or to the debit side of Surplus account. If at any time the debit side of Surplus account exceeds the credit side, the balance represents a deficit, or the amount by which the capital of the business is impaired.

Banks usually make a distinction between Surplus account and Undivided Profits account. Each year a given amount of the net profit is transferred to Surplus account to serve as permanent working capital, while the remainder, after payment of dividends, is carried in the Undivided Profits account. Many corporations make no distinction between the two accounts, using either one or the other for all purposes. Some make use of the title "Surplus and Undivided Profits," others prefer the term "Surplus and Deficiency," while others use only the Profit and Loss account. The caption "Surplus and Deficiency" is preferred by many accountants because the account may then without misnomer not only accommodate surplus but any deficiency as well. This is the plan used by public service commissions in their schedules and reports.

4. Entries to Surplus Account

Surplus account should be debited with:

1. The amount of dividends declared.
2. The amounts periodically reserved for sinking fund purposes.
3. Any adjustment during the current period of entries made during the previous period when the adjustment diminishes the profits.
4. Any extraordinary charges affecting the profits of a business.
5. The balance of the Profit and Loss account if a debit at the close of the fiscal period.

The account should be credited with:

1. The net profit as shown by the Profit and Loss account at the close of the fiscal period.
2. Any adjustments made during a fiscal period which should have been credited to some ex-

pense or revenue account within a prior fiscal period; or which increase the profits of a prior fiscal period.

The reason for taking into the current Surplus account all adjustments applicable to a prior period, or of an extraordinary nature, is to enable the Profit and Loss account to show the result of operating under normal conditions. If some extraordinary charge or credit is made to Profit and Loss account, the results for that particular period will be abnormal and inconsistent with those of previous periods. Examples of the items which may be charged to Surplus are a fire loss not recoverable, loss from accident or damage suits, shrinkage in the value of securities or merchandise on hand. Suitable credits to the account would be payments on old accounts written off, the amount (if small) realized on the sale of stock at a premium, and so on.

5. Surplus from Sale of Assets

When any fixed assets are sold at more than their book value, the excess may be set up in a special surplus account only after a careful appraisal establishes the fact that the depreciation reserve is ample and that the remaining fixed assets are carried on the books at their true value. If the amount in Depreciation Reserve account is inadequate, the surplus derived from the sale, or a portion thereof, should be used to increase the valuation reserve to an adequate amount. The remainder, if any, may then be taken up as income and credited to a separate surplus account to show the source of the increased net worth.

When a concern holds a considerable amount of temporary or permanent investments, conservative practice requires the creation of a reserve out of surplus for a possible decrease in their value. If this practice be followed, and some of the investments are sold at a profit, the profit should first be applied to increase the margin of safety against possible loss on investments still held, if this be considered necessary. Any part of the profit thereafter remaining is a proper increase to the Surplus account.

6. Surplus and the Revaluation of Assets

The depreciation allowance, however carefully estimated in the first instance, rarely exactly equals the actual depreciation over a long period of time. For this reason many large concerns desiring to have an impartial appraisal made of the value of their fixed assets from time to time, engage an independent appraisal company which specializes in this class of work. If the revaluation of the property shows it to be worth more than the amount at which it is carried on the books, one of two courses may be adopted. The values may stand as before and the proper adjustment be secured by gradually decreasing the amount of depreciation charged in subsequent accounting periods; or the increase may be taken up. The method used will depend upon the way in which the depreciation of prior periods has been handled. If the depreciation charges have been credited direct to the asset accounts, and the assets in consequence are carried at their depreciated value, any increase in the appraised value should be debited to the asset account so that the book value may be equal to the appraised value—the offsetting credit being to Surplus account. If the depreciation charges have been carried to Reserve for Depreciation, the book value of the assets may be increased to their appraised value by reducing the amount in the reserve account.

Sometimes the revaluation will disclose the fact that the property is overvalued. In this case, to be conservative, Surplus account should be charged and Depreciation Reserve credited with the amount of the overvaluation.

7. Accounting for Surplus and Reserves

To illustrate the journal entries required for the disposition of the surplus at the end of an accounting period, assume that a certain corporation finds that during the fiscal year it has earned a net profit of $100,000. The board of directors declares a 10% dividend which reduces Surplus and Cash by $50,000, and further declares that $30,000 of surplus profits be reserved for future contingencies. The surplus profits now remaining amount to $20,000. The journal entries required to set forth the above facts are:

Profit and Loss	$100,000.00	
Surplus		$100,000.00
To transfer net profit to Surplus account.		
Surplus	50,000.00	
Dividend Payable		50,000.00
To record declaration of dividends.		
Dividend Payable	50,000.00	
Cash		50,000.00
To record dividend payment.		

Surplus	30,000.00	
Reserve for Future Contingencies		30,000.00
To record setting aside the reserve.		

An alternative method whereby the same facts may be recorded with fewer entries is to debit Profit and Loss account direct as follows:

Profit and Loss	$80,000.00	
Dividend Payable		$50,000.00
Reserve for Future Contingencies..		30,000.00
To record appropriation of profits.		
Profit and Loss	20,000.00	
Surplus		20,000.00
To record transfer of balance to Surplus.		
Dividend Payable	50,000.00	
Cash		50,000.00

8. Effect on Balance Sheet

Assume that before making the above entries the corporate balance sheet in condensed form reads as follows:

Balance Sheet

Miscellaneous Assets ...	$800,000.00	Miscellaneous Liabilities	$200,000.00
		Capital Stock	500,000.00
		Undivided Profits (Surplus)	100,000.00
	$800,000.00		$800,000.00

When the item of Undivided Profits is passed into Surplus, the only change to be made on the balance sheet is that the term "Surplus" replaces the term "Undivided Profits." After the dividend has been declared and paid and reserve for future contingencies has been set up, the balance sheet will appear as follows:

BALANCE SHEET

Miscellaneous Assets ...	$750,000.00	Miscellaneous Liabilities	$200,000.00
		Capital Stock	500,000.00
		Reserve for Contingencies	30,000.00
		Surplus	20,000.00
	$750,000.00		$750,000.00

REVIEW QUESTIONS

1. Name several sources of surplus.
2. Set up a skeleton Surplus account, giving all the usual debits and credits.
3. Give journal entries for the declaration and payment of a dividend.
4. What is usually the final entry made in the books of a corporation when dividends are not paid?

CHAPTER VIII

RESERVES AND FUNDS

1. Definition and Nature of Reserve

A reserve is a part of surplus withheld from distribution as dividends, and set aside for the special purpose indicated by its name. This purpose is usually to accumulate capital out of profits for present or future contingencies whereby the operation and prosperity of the business are safeguarded so far as prudent financial foresight can contribute to this end.

Before proceeding further it should be understood that a reserve which is created by a charge against operations to offset a capital loss is a valuation reserve; not a true reserve.

The credit balances in accounts recording the depreciation of physical units, the amount reserved for possible losses on accounts receivable, and so on, constitute a bookkeeping expedient whereby the estimated losses in asset values are recorded separate from the asset accounts to which they are offsets. The purpose of this separation is to preserve from any obscurity the original purchase or cost price of the assets and the provision that has been made year by year for their depreciated value. For these reasons such reserve accounts are frequently called "valuation" accounts to distinguish them from true reserve accounts set aside from surplus.

A true reserve is something set aside out of surplus profits after their amount has been determined. A valuation reserve offsets a loss actually incurred or that may be incurred, the amount of which is estimated and charged to the expense of operation before the amount of the true profit can be ascertained.

The title of a reserve account will ordinarily indicate whether it is a valuation account or a true reserve. Thus, Reserve for Extensions, and Reserve for Contingencies are obviously reservations of profits for the future financing of the business and in no sense can they be considered as involving expenses of operation. On the other hand, Reserve for Bad Debts and Reserve for Depreciation are as obviously credits representing reductions in assets due to expenses involved in operation. These may be termed valuation accounts because together with the asset accounts they represent the value of the assets.

2. Balance Sheet Treatment of Reserves

The distinction between the two kinds of reserves should be clearly indicated on the balance sheet by the method of their presentation. A valuation reserve recording the estimated shrinkage in value of an asset should appear as a deduction therefrom on the asset side of the balance sheet. A true reserve—an amount set aside from surplus for a specific or general purpose—should be shown as a subdivision of the surplus account among the proprietorship or net worth items.

While the above form of presentation on the balance sheet has the merit of clearness and truth, the plan is not uniformly followed. The financial statements of manufacturing concerns usually show the item of depreciation as a deduction from the fixed assets only when depreciation has been charged to the cost of operation. In mercantile houses and in small manufacturing businesses the depreciation charge is frequently a matter of financial policy determined after the profits for the fiscal period have been ascertained. In this case the usual practice is to show the depreciation reserve and similar charges among the net worth items, thus indicating that they are reservations from profit.

This latter method of presentation is wrong in principle. In justification of its use it is contended that when operations result in a loss the factor of depreciation may properly be ignored, as otherwise the deficit would be further increased by the amount of the depreciation charge. Therefore, the proponents of this method say, if depreciation may be ignored when there are no profits, it should be shown as a reservation of profits when conditions permit. Under no circumstance should a deficit be turned into a profit by this procedure. The aim in all cases and at all times should be truth in the statement of financial condition and profits.

3. Reserves vs. Funds

There is little or no uniformity in the use of the term "fund," nor is a precise distinction always made between the meaning of the terms "reserve account" and "reserve fund." Some accountants use "reserve fund" as applying to the true reserve, and the term "reserve account" as applying to the valuation reserve. As an actual fund of cash or securities is an asset, it would, in the interests of clearness and exactness, seem advisable to confine the meaning of "fund" to those accounts which represent cash, or its equivalent, set aside for a particular purpose, and the meaning of a reserve account to those set up by making reservations of surplus.

For instance, if a certain amount of cash is set aside at periodical intervals to meet a liability such as the redemption of bonds, a *fund* is created. In the case of this fund, actual cash is withdrawn and held, and is there for the redemption of the bonds when they fall due.

If, however, instead of this, a portion of the profits is withheld from distribution as dividends and entered in a reserve account, a *reserve* is set up on the books. For example, suppose a corporation does not provide for the redemption of its bonds by a cash *fund* but merely makes a reservation of profits by a charge against Surplus; the result is a reserve.

In the case of the *reserve,* the profits have simply been withdrawn from surplus and entered in another account, "Reserve for Redemption of Bonds," so that they cannot be declared in dividends or diverted to other uses—merely a *bookkeeping operation.* This being so, when the bonds fall due, their redemption will not impair the capital or reduce the surplus, because of the reserve; but this is all that the reserve does, and the directors must then take steps to secure *cash* to pay the bonds.

To illustrate further, a fund consists of a certain amount of assets in a liquid and realizable form set aside to carry out the specific purpose for which the fund is created. On the other hand, a reserve consists of the segregation of part of the surplus to a reserve account;

it prevents the distribution of that amount as dividends, but does not of itself provide funds for these future needs. If a balance sheet states that $30,000 is reserved out of profits, these profits are likely to be absorbed in business operations or to lie as idle cash in the bank unless earmarked for some funded purpose. This can be provided for only by setting aside from time to time whatever cash can be safely taken out of working capital and investing it in readily convertible assets. When actual cash is set aside in this way, actual money is available for the specific purposes of the reserve account. Such reserved assets become the fund, and appear upon the balance sheet as shown below.

BALANCE SHEET

Miscellaneous Assets ...	$720,000.00	Miscellaneous Liabilities	$200,000.00
Fund	30,000.00	Capital Stock	500,000.00
		Reserve for Contingencies	30,000.00
		Surplus	20,000.00
	$750,000.00		$750,000.00

It should be noted that the investments in the fund need not necessarily equal the amount carried to reserve out of surplus, although it is preferable that they should do so. Only a portion of the reserve may be covered by specific assets, held in a fund, the remainder of the reserve being merged in the general assets of the business. Funds, when created for specific purposes, should, like reserve accounts, indicate the purpose in their heading as "Assets in Pension Fund," etc.

Accounting opinion is not in agreement as to the propriety or necessity of utilizing the liquid assets of a business for the creation of a fund. The contention is frequently raised that the most profitable investment for any enterprise lies in the extension of its own plant and the sphere of its operations. To accumulate a portion of the cash in a fund is to withdraw cash which might otherwise be utilized as working capital and thus increase profits. The increased profits furnish adequate security for the carrying out of the purpose indicated by the creation of a special reserve or for meeting any of the contingencies for which a general reserve may be created.

4. Relation Between Reserve and Fund

It should be clearly understood that the appearance of surplus reserves on the balance sheet does not indicate corresponding special investments. The reserves merely represent proprietorship items—portions of surplus transferred to a special account by simple journal entry. Like the surplus of which they form part, they are invested in the assets of the business. If the assets consist of fixed property and working capital only, the reserves are no more available for the purpose for which they have been created than is the general surplus itself.

For the reserve to be available, the margin of either the cash or the liquid assets must be in excess of the working capital by the amount of the reserve. To insure funds for the carrying out of the object for which the reserve is created, a fund, as already explained, should be created in cash or securities equal in amount to the reserve appropriated from surplus. Apart from this equality the two have no accounting relationship.

Unless the amount carried to the fund is placed in the hands of a trustee, there is nothing to prevent its utilization for some purpose other than that indicated by its name. Also, the reserve taken from surplus is in no way secured by the fund. If the operations of the business result in a loss which reduces the value of the assets to less than that of the liabilities, both the general surplus and the appropriations reserved from surplus would be extinguished, yet the fund might still appear among the assets.

To illustrate the points discussed above, assume that the balance sheet shows:

BALANCE SHEET

Assets	$220,000.00	Capital	$150,000.00
Investment of Extension Fund	30,000.00	Liabilities	50,000.00
		Reserve for Extensions	30,000.00
		Surplus	20,000.00
	$250,000.00		$250,000.00

Assume that a liability of $20,000 becomes due which cannot be renewed and the only liquid assets available for its payment are those in the extension fund. The balance sheet then becomes:

BALANCE SHEET

Assets	$220,000.00	Capital	$150,000.00
Investment of Extension Fund	10,000.00	Liabilities	30,000.00
		Reserve for Extensions	30,000.00
		Surplus	20,000.00
	$230,000.00		$230,000.00

The surplus reserves remain as before but the fund is depleted by the amount of the debt paid.

Assuming, on the other hand, that the business of the year following the first balance results in a loss of $60,000, the balance sheet might then read:

BALANCE SHEET

Assets	$150,000.00	Capital	$150,000.00
Investment of Extension Fund	30,000.00	Liabilities	50,000.00
Deficit	10,000.00		
	$200,000.00		$200,000.00

While the assets are reduced by the amount of the loss and the investment in the fund still remains intact, both surplus and the reserve have disappeared. In the first case the fund is disbursed for the purpose of liquidating a liability. In the second case there occurs a cancellation rather than a disbursement. Certain tangible assets are lost or paid out and this may cause the cancellation of the surplus reserved in accounts on the credit side of the ledger.

5. Secret Reserves

When the fixed assets of an organization are shown on the books at less than their value to it as a going concern, the effect is to create a secret reserve. A secret reserve is thus a form of unrevealed surplus which may be accumulated in various ways, e.g., by:

1. An excessive provision against depreciation or possible losses from bad debts, or from other causes, the amount of such provision being deducted from the value of the asset.
2. The maintenance at cost of assets which have permanently increased in value, such as land and investments in securities.

3. The carrying of an asset at a merely nominal sum, the whole or part, as the case may be, of the proper value of the asset having been written off out of the profits of past years.

Opinions differ as to the propriety of creating a secret reserve. Some accountants contend that its use is justifiable if for no other reason than that of conservatism in the valuation of assets. Other authorities hold that facts as to financial condition and operation should be stated as honestly and correctly as possible. The majority opinion is in favor of these latter. A secret reserve, no matter how honest the intent with which it is created and manipulated, cannot be regarded as correct in principle or in accordance with the real intent of accounting—which is to state the truth conservatively. In the hands of an unscrupulous board of directors seeking to gain sole control over a highly profitable enterprise, a secret reserve may be created as a means of avoiding the payment of dividends which have really been earned, and to which the stockholders are entitled. The effect of such non-payment upon the market value of the company's bonds and non-cumulative preferred stock may be disastrous. Stock- and bond-holders not knowing the true state of affairs may be led to dispose of their holdings at less than their real value.

Though the creation of a secret reserve may be carried out with the best of intent, the dangers inherent in the nature of the concealment are such that the practice is to be avoided unless there are sound reasons for carrying the assets on the books at less than their cost values. The arguments for and against the practice are summed up by Arthur Lowes Dickinson * as follows:

"Each case must be judged on its own merits. Where the directors or managers have exercised a wise discretion in providing in advance for contingent losses, incident to the nature of the business, which cannot, from a reasonable point of view, be considered as in excess of the amounts which a wise foresight would provide, it would seem that no exception should be taken to the undisclosed provision thereof. This would apply particularly to cases in which the business conducted was of a fluctuating or speculative character, or in which its success was largely dependent on the maintenance of very high credit, such as a bank. Reserves in such cases may well be larger than in others where such conditions do not exist, provided that they are made on the same sort of basis continuously and not merely spasmodically. In all such cases the sudden disclosure of heavy deficits or losses which are clearly incident to the nature of the business but only occur at irregular intervals, may easily be disastrous to the interests of the stockholders by unduly depressing the market price of the capital stock, and it would seem to be not only the right but the duty of directors to protect them against such contingencies by making ample secret reserves when profits permit. Where, however, reserves are made largely in excess of any possible contingencies, the amounts provided should be disclosed in the Profit and Loss account and probably also in the balance sheet, so that all those interested may be in a position to form a reasonably correct opinion as to the financial position. So far as

* In "Accounting Practice and Procedure," page 151.

the majority of corporations and businesses are concerned, publicity in such matters is undoubtedly most desirable; and all reserves to meet contingencies which may occur in the future, but have not yet occurred, should be fully disclosed."

6. Further Classification of Reserves

The two kinds of reserves previously discussed may be further distinguished and illustrated by classifying them as "voluntary" and "necessary." A voluntary or true reserve provides out of profits for the expansion or security of the business; or for a contingency that has not yet arisen but may arise in the future and provision for which is merely evidence of prudent foresight. A brief summary of the purpose of such reserves follows:

1. To provide a permanent increase in capital, either for the expansion of the business or for the further security of its creditors—such as the insurance reserve of steamship companies or an insurance company's reserve for possible depreciation of securities.
2. To provide additional capital with which to meet emergencies or unexpected losses without encroaching on the nominal capital—such as losses due to accident or fire.
3. To provide for the equalization of dividend payments by retaining part of the profits of prosperous years and drawing upon this reserve during lean years.

A necessary or valuation reserve provides for losses that have actually occurred. No financial statement may be said to set forth the true financial condition of a business which fails to include, when necessary, such reserves as those for:

1. Depreciation on fixed assets.
2. Bad debts.
3. Depreciation on stock-in-trade.
4. Expenses incurred of an unknown amount.
5. Losses incurred, the resulting money value of which can only be estimated.
6. Depletion of wasting assets.

The necessary or valuation reserve represents an estimated loss which is to be closed out to operation as soon as the actual expenditure is known. The true or voluntary type represents surplus profits, distinguished from the profits available as dividends by setting them aside for a special purpose.

7. Operation of True Reserve Accounts

The kind of business and the financial policy of its management are the factors which determine the reservations of surplus. On the balance sheet of a corporation, for example, there may appear such items as Reserve for Improvement, Surplus Dividends, Pension Reserve, Reserve for Contingencies, etc., indicating that the financial policy of the concern is to withhold part of the profits for the purposes designated in the account titles. The reserve is set up by a debit to Surplus and a credit to the reserve. When the purpose of the reserve is about to be fulfilled the entries depend upon whether the transaction represents (1) an unusual loss, or (2) a capital expenditure.

An unusual loss due to fire, accident, a fall in the value of investment securities, and so on, may properly be debited to the reserve instead of to Profit and Loss, the corresponding credit being to the account with the asset, the value of which has been diminished by the loss. The result of charging the loss against the reserve instead of against operations is that the current profits from ordinary business are clearly shown and are available for dividends.

A capital expenditure to provide additional plant, the cost of which is covered by the reserve, should not ordinarily be charged thereto, because to do so would result in creating a secret reserve. If, for example, the balance sheet shows:

BALANCE SHEET

Fixed Assets . $120,000			Capital	$130,000.00
Less—Depreciation	20,000	$100,000.00	Reserve for Plant Additions	20,000.00
Liquid Assets		50,000.00		
		$150,000.00		$150,000.00

and $20,000 is spent on the purchase of additional plant, the charge of this amount to the reserve would show:

BALANCE SHEET

Fixed Assets . $120,000			Capital	$130,000.00
Less—Depreciation	20,000	$100,000.00		
Liquid Assets		30,000.00		
		$130,000.00		$130,000.00

Cash is decreased by $20,000 when the purchase is made, but this expenditure is not a loss because assets of equal value are obtained. There is no justification in charging to reserve anything which cannot legitimately be charged against profits. The debit in this case should be to an appropriate asset account, making the balance sheet read:

BALANCE SHEET

Fixed Assets .	$120,000		Capital	$130,000.00
Less—Depreciation	20,000		Reserve for Plant Additions	20,000.00
	$100,000			
New Assets Acquired ...	20,000	$120,000.00		
Liquid Assets		30,000.00		
		$150,000.00		$150,000.00

As no useful purpose is now served by reserving or earmarking the surplus for a purpose that has been fulfilled, the Reserve for Plant Additions may be closed out to the general surplus or to General Reserve or Undivided Profits as determined by financial policy.

8. Operation of Valuation Reserve Accounts

In the accounting of valuation reserves, the purpose is to show the amount of a particular loss incurred and charged to operations but not yet paid. Therefore, in setting up the reserve the corresponding debit to the credit posting is always to operating expense. Thereafter, the reserve account is debited with the amounts credited to appropriate asset accounts when the loss is recorded or paid.

The valuation reserves common to almost every kind of business are those for depreciation of fixed assets and for estimated losses on accounts receivable. The method of operating these accounts, when transactions are complicated, is left for discussion in later chapters. Any other valuation accounts operated would depend upon the nature of the business. A transportation company, for example, or any other concern incurring serious liability for accidents or damage, would ordinarily protect its capital and shareholders by charging to the cost of operation sufficient to cover the average loss incurred.

To illustrate, the Reserve for Injuries and Accidents of a transportation company would normally be based on an estimated percentage of the revenue received to be applied to the indemnification of injured passengers; the Reserve for Injuries to Employees of a manufacturing concern might be figured as a percentage of the payroll and added to the labor cost of the product; and the Reserve for Damage Claims might be accumulated from the source responsible for the damage or where the damage occurs—as from the sales of a concern shipping a fragile article or from the freight earnings of a railroad company.

REVIEW QUESTIONS

1. What is a true reserve?
2. What is a valuation reserve?
3. What is the correct balance sheet presentation of a valuation reserve?
4. Explain the difference between funds and reserves.
5. What is a secret reserve?
6. What is the entry to be made for a voluntary or true reserve?
7. Give a typical journal entry for a valuation reserve.

Part II
Bonds, Capital Stock, and Depreciation

CHAPTER IX

BONDS AND BOND INVESTMENTS

1. Nature of Bond Issues

A bond is a promise under the seal of a corporation admitting indebtedness and agreeing to repay the indebtedness together with interest thereon at specified dates and at an agreed rate. A corporation may borrow money by the issue of either notes, bonds, or a bond and mortgage. If the amount borrowed is relatively small or if it is borrowed from a few persons or for a short time, the evidence of indebtedness would ordinarily take the form of corporate notes. If the amount borrowed is large and is raised in a single sum, the acknowledgment of indebtedness may take the form of a bond and mortgage on real property. If the sum is a large one and is to be borrowed for a number of years, the loan is usually raised by a corporate bond issue.

Corporate bonds, as here discussed, are to be distinguished from the real estate bond and mortgage. The distinctive feature of the corporation bond is its divisibility whereby the loan is participated in by a large number of investors. To the ordinary mortgage there are as a rule only two parties, the borrower (the mortgagor) and the lender (the mortgagee). The bond issue of a corporation may be owned by any number of persons, whose interests are placed in the hands of a trustee because the bondholders cannot conveniently act individually.

While both corporate notes and bonds are formal promises to pay money, the difference between the two is that the bond must be executed under seal, whereas the corporate note need not be so executed. Also the corporation bond is usually, although not invariably, secured as to interest and the repayment of principal by a lien or mortgage on certain specified property and sometimes in addition by the creation of a sinking fund held in trust to safeguard its redemption at maturity.

Bonds are issued in various denominations, $100 or $1,000 being the customary amounts, and are sold by the issuing corporation to the general public—usually through the medium of bankers or brokers. The period of time covered by the issue before the bond is redeemed by the repayment of the loan varies. It may run from five to fifty years or more. Loans for a shorter period than five years are usually negotiated by means of the short-term notes or real estate mortgages already mentioned, or by bank credits.

2. Kinds of Bonds

While there are any number of classifications into which corporation bonds may be divided, depending upon the nature of the securities offered, the purpose of the issue, and the conditions attached to the payment of interest and principal, these details are of more interest to the investor than to the accountant. Here all that is required to note is that bonds may be divided into two kinds—registered and coupon. A registered bond is so called because interest and principal are payable only to the person in whose name it is registered on the corporate books. As the instrument cannot be transferred to another party by assignment, it is not negotiable. A coupon bond is a negotiable instrument and for this reason evidence as to whom interest payment is due depends upon the possession of the coupon attached to the bond—usually one for each payment until the date of its maturity. No register is kept on the corporate books of the owners of coupon bonds, and the interest, as due thereon, can be collected only by presentation of the coupon. This coupon constitutes a small promissory note payable to bearer and payment is usually made through the bank of the investor who holds the bond.

One bond issue is distinguished from another by the name of the issuing corporation, the date of its maturity, the interest it bears on its face value and in some cases the purpose for which it is issued. Thus the figures "U. S. 4's, 1925," as quoted in the stock exchange reports, signify United States 4% bonds due in 1925.

3. Bond Prices and Values

The principal sum to be repaid when the bond is redeemed at its maturity is known as the "par" of the bond. The rate of interest which the security bears is always paid on this par value, regardless of the market price, i.e., the price at which purchased from or sold to a broker or other financial agent. When the bond changes hands through the medium of a broker, the latter usually charges a commission or "brokerage" of 1/8%.

Bonds are rarely issued or sold at par, i.e., the price at which they are offered to the public or purchased and sold by brokers may not represent the amount on which interest is to be paid. When bonds are sold above or below par, they are said to be sold at a premium or discount. The brokerage, premium, and discount are computed on the par value of the bonds. The market value of a bond is the price it may be expected to realize on the open market. Among the factors which determine the price at which bonds are issued or at which they pass from hand to hand are:

1. The underlying security which guarantees repayment.
2. The length of time before maturity.
3. The interest rate.
4. The credit rating of the issuing corporation.

As bonds are redeemable on their dates of maturity at their nominal or face value, no attention need be paid to fluctuations in market value when accounting for them on the books. If they are held until maturity the realizible amount is known; if they are sold before maturity the difference between the market price realized and their book value constitutes the profit or loss as the case may be. The method of accounting for bond investments will be taken up in the following chapter.

4. Computing Bond Values

The method of computing the price of a particular bond requires consideration before taking up the problems which arise in connection with premium and discount on bonds. In this case the problem is a matter of simple arithmetic and knowledge of the meaning of the terms used. Assume, for example, that an issue of 7 per cent bonds is quoted at 115¾ and it is desired to purchase an investment therein of the par value of

\$5,000 four months after the date when interest is due. How much will the bonds cost? \$5,000 worth represents 50 bonds at a par value of \$100. The bond is quoted at a premium of $15\frac{3}{4}$, to which must be added brokerage of $\frac{1}{8}$ of 1 per cent. $15\frac{7}{8} \times 50 = \$793.75$. This premium, however, does not include 4 months' interest at 7 per cent accrued on the bonds at their date of purchase, which amounts to \$116.66. Therefore, the total cost of the bonds would be: \$5,000 (their nominal value) + \$793.75 premium and brokerage + \$116.66 accrued interest = total \$5,910.41.

While a premium paid on a bond appears to be a loss, and a discount received a gain, at the time of its purchase, as neither affects the par value of the bond at its maturity, the loss or gain is only apparent. A premium is paid on a bond purchase because of the high rate of interest the bond issue bears or because of some other desirable feature. As has been mentioned already, the nominal rate of interest on a bond is fixed, whereas the market rate of interest fluctuates. As this market rate fluctuates, so is the price of the bond affected. Thus, if the current market rate is 5% and a bond carries an interest rate of 6%, it may be sold at a premium sufficient to reduce the interest rate to 5%. On the other hand, if the figures are reversed, if the bond bears 5% interest and the market rate is 6%, the bond would be offered at a discount sufficient to provide approximately 6% on the money invested.

There are therefore two fixed points in the history of a bond: the original cost or money invested and the principal or par—the money to be received at maturity. Between these two points there is a gradual change in the value of the bond: if bought below par it must rise to par; if bought above par it must sink to par. At any intermediate moment between these two points there is an investment value which can be calculated and which is just as true as the original cost at the date of purchase and the par value at the date of maturity.

In the business world it is usual to speak of interest rates as so much per annum. In the majority of cases, however, the interest, although it is either designated or understood to be per annum, is nevertheless not paid by the year (that is, once a year) but in semiannual or quarterly instalments. Where the interest is payable otherwise than annually, the rate per annum is only nominally correct. For example, if the interest on a 6% 1,000 bond is payable half-yearly, the effective rate would be:

Interest earned during first period on original loan	$30.00
Interest earned during second period on original loan	30.00
Interest earned during second period on the first $30	.90
	$60.90

The total interest earnings during the year, therefore, would be $60.90 which is at the effective rate of 6.09% on the original investment, as compared with a nominal rate of 6%.

5. Nominal Interest vs. Effective Interest

With respect to all bonds bought above or below par there are always two rates of interest involved: (1) a nominal or cash rate, which is a certain percentage of par and which is indicated by the coupons; and (2) an effective or income rate, which is a certain percentage of the amount originally invested and remaining invested. The effective or income rate is the actual return received on the price paid for the bond. Thus, ten $100 bonds bought at a premium of 10% would cost $1,100. Assuming that the nominal rate of interest is 6% payable annually, the investment of $1,100 would yield an annual return of $60. Therefore, if $1,100 yields $60 interest, $100 would yield 1/11 of this sum, or $5.45, or 5.45% interest, which is the effective yield on the bonds.

In actual practice the determination of the effective interest rate is rarely so simple a problem as in the foregoing example. Bonds run for many years and are usually purchased as a permanent investment rather than as a speculation, and therefore as a rule many interest dates must elapse before the time of their redemption. Moreover, as previously stated, interest is payable semiannually and this further complicates the computing of the effective interest rate. Since a premium paid on a bond is in effect a reduction of the interest, each coupon of $60 in the above example includes two elements—the effective interest of $54.54 on the investment and the difference between the two, which must be regarded as a return of part of the premium itself, so that at the date of the maturity of the bond the premium is extinguished. Thus the payment of the coupon of one period changes the principal on which the effective interest is calculated for the next period. The determination of the effective interest rate on bonds which have many periods to run involves the computation of compound interest for each period, therefore bond tables are usually used to ascertain this rate.

6. Amortization and Accumulation

As a premium paid on a bond is not received at its maturity, to carry the investment on the books permanently at a price paid above par is wrong in principle. The premium represents a gradually diminishing asset value, which value decreases at each interest payment by the amount of the difference between the nominal and effective interest rates. The discount represents a gradually increasing value augmented at each date of interest payment by the amount of the difference between the nominal and effective interest rates.

The gradual change in investment value between the purchase date of a bond and its maturity, as previously noted, is ignored by some investors who during the whole period carry the investment at either its original cost or its par value. If carried at cost the assumption is that the investment value remains at its original figure until the day of maturity, and is then instantly changed to par either by a loss of all the premium or a sudden gain of all the discount. If carried at par value the assumption is that the premium paid is a loss and the discount a gain at the date of the purchase of the bond. These methods of treatment are unscientific and are only resorted to on account of the labor involved in computing intermediate values.

The proper method of treatment is to distinguish between the nominal and effective interest at each interest payment date. Thus, if a bond is purchased at a premium the effective rate is lower than the nominal rate and the difference between the two rates should be used as a reduction of the premium paid. This process is called amortization.

If the bond is purchased at a discount, the actual return on the money invested will be greater than the nominal rate of the bond. The difference between the nominal and the effective rate should be added to the cost of the bond so that at maturity its book value will be increased to par. This process is called accumulation. The method of accounting for bond premium and discount will be discussed in the following chapter.

To illustrate the process of amortization, take a $100 bond bearing a nominal rate of 4% which has two years to run. Assume that it is purchased for $101.93, thus yielding 3%. Interest is payable semiannually.

The first coupon received would be for $2 at the end of the first six months. 3% on $101.93 for six months is $1.53. The amortization is therefore $ .47. The interest for the next six months is figured on the principal after writing off amortization for the first period. The principal for the second period is $101.46 and interest at 3% on this for six months amounts to $1.52. The amortization here is $ .48. Proceeding in the same way it is found that the amortization for each of the remaining two periods is $ .49. The total amortization at the end of the fourth period would therefore be $1.93—the amount paid as a premium at the purchase of the bond.

Discount is handled in the same way, the variation being that the par value is reached by accumulation instead of amortization.

7. Amortization Problem—An Alternative Solution

An alternative method of amortizing the premium or accumulating the discount on bonds is to proceed from maturity or par value back to the book value by determining the present worth of the bond at the different interest periods. This is the simplest of all methods of computation and may be made clear by an illustrative problem.

Assume that $100,000 first mortgage bonds, payable January 1, 1925, and bearing interest at 6%, payable January 1 and July 1 are bought on January 1, 1920, at a price which is to yield 4% effective interest and that this price is $108,982.59. It is required to set up a schedule showing the total income, the amortization, the net income, and the book value of the bonds at the end of each interest period. By working backwards and obtaining each value from the next later value by addition and division, the amortization for each period may be ascertained. Given the amount to be amortized, the net income and book value can be readily figured.

Thus beginning at maturity with par	$100,000.00
and adding to it the interest due January 1, 1925	3,000.00
	$103,000.00
Then discounting this by dividing by 1.02, the effective interest rate, which gives	$100,980.39
namely, the value of the bonds one period before maturity. To obtain the next value add the coupon due July 1, 1924	3,000.00
	$103,980.39
and divide again by 1.02, giving the value of the bonds two periods before their maturity	$101,941.56
and by proceeding in like manner successive terms may be obtained as far as desired.	

The method of calculation can be more clearly shown in schedule form as set forth below:

Year	Date	Total Interest 6%	Amortization	Net Income 4%	Book Value	Par Value
1925	Jan. 1	$ 3,000.00	$ 980.39	$ 2,019.61	$100,000.00	$100,000.00
1924	July 1	3,000.00	961.17	2,038.83	100,980.39	
"	Jan. 1	3,000.00	942.32	2,057.68	101,941.56	
1923	July 1	3,000.00	923.85	2,076.15	102,883.88	
"	Jan. 1	3,000.00	905.73	2,094.27	103,807.73	
1922	July 1	3,000.00	887.97	2,112.03	104,713.46	
"	Jan. 1	3,000.00	870.56	2,129.44	105,601.43	
1921	July 1	3,000.00	853.49	2,146.51	106,471.99	
"	Jan. 1	3,000.00	836.76	2,163.24	107,325.48	
1920	July 1	3,000.00	820.35	2,179.65	108,162.24	
"	Jan. 1				108,982.59	
		$30,000.00	$8,982.59	$21,017.41		

REVIEW QUESTIONS

1. What is a bond?
2. What are the factors which determine the market value of a bond?
3. Explain the "effective interest rate."
4. Explain amortization; accumulation.
5. Set up the proper journal entries to record the facts year by year as given in the schedule, in answer to the amortization problem on page 129.

CHAPTER X

ACCOUNTING FOR BONDS

1. Investment Value Method

The extent of the accounting for bonds purchased varies with the magnitude of the transactions. From the standpoint of the purchaser who buys a few bonds as either a permanent or a temporary investment, elaborate accounting procedure involving amortization and accumulation may be unnecessary for several reasons. For one, the return on the investment will be relatively small; for another, the price of bonds depends on conditions other than their nominal rate of interest, thus making the effective rate difficult for the average investor to calculate. For these and other reasons the customary practice for small investments is to carry the bonds at their purchase price and to consider the premium or the discount as a loss or gain at the time of maturity or sale of the bonds.

Where, however, investments in bonds and other securities are part of the ordinary business operations, the accounts should be kept on an investment value basis. Unless the books show the effective interest on the total investment, the investor cannot tell whether a contemplated selling price will result in a loss or a gain. The simplest method of recording the effective interest is to divide the total premium or discount by the number of interest periods yet to run and to take the result obtained as the amortization or accumulation for each period. While this method is not strictly accurate, in that the element of interest is ignored, it is sufficiently so for the purposes of the average investor.

2. Accounts for Bond Investments

When the true investment value of the bonds is to be shown on the books, accounts are opened with:

1. Each kind of bond investment
2. Accrued interest (if any)
3. Bond income
4. Bond premium
5. Bond discount

The bond account should be headed with the distinguishing name of the bond issue—such as New York City 4½'s 1957—and should show the bonds at their par value. Accrued Interest account records the interest accrued when the bonds are purchased or when the books are closed. Bond Income account shows the income derived from the investments. The premium and discount accounts show the amounts paid either above or below the par value of the investment and the gradual reduction of these amounts as the bonds approach maturity.

3. Accrued Interest on Investment

Interest on a bond accrues from day to day although not payable until the end of some fixed period, such as six months. Consequently, the purchase price of a bond is fixed usually to cover not only its face value but also the amount of interest which has accrued since the last interest date. Even if the bond be purchased for a flat fixed price, regardless of interest, the accrued interest should nevertheless be calculated for the purpose of showing the capital value of the accrued interest which will shortly be collected in cash.

Accrued interest purchased constitutes an asset analogous to an account receivable; therefore, an Accrued Interest on Bond account is debited with the amount of the accrual at the date of the purchase of the bond. When the next coupon is collected, Accrued Interest on Bond account is closed into Bond Income account so that the latter may show the true income in interest to date.

To illustrate the operation of the above accounts, assume that two 6% bonds of the par value of $1,000 each, with interest payable February 1 and August 1, are purchased on May 15. The interest which has accrued thereon since February 1, or during a period of three and one-half months, amounts to $35. At the time of purchase, $35 is debited to Accrued Interest on Bonds, and on August 1 the balance of this account is closed into Bond Income account. After the latter account is credited with $60 (the amount of the coupons collected) its balance will be $25. This sum represents the actual interest received for the period of two and one-half months during which the bonds have been held.

4. Premium on Bonds

As already explained, a bond at its maturity date is redeemed at its face value and therefore any premium paid in excess of par cannot be permanently carried on the books as a realizable asset; it must be amortized over the life of the bond. To do this the nominal interest received on the coupon is first credited to Bond Income account, after which a journal entry is made debiting that account and crediting Bond Premium account with the amount to be amortized (see Chapter IX, §6.)

To illustrate the method of accounting for the premium, assume that $100,000 worth of bonds are purchased for $101,930, that the nominal interest is 4% and that the bonds have two years to run. Interest is payable semiannually and the effective interest rate is 3%.

The first coupon received would be for $2,000 at the end of six months. 3% on $101,930 for six months is $1,528.95. The amortization is therefore $471.05. The interest for the next six months is figured on the principal after writing off the amortization for the first period. Therefore 3% on $101,458.95 ($101,930 — $471.05) for six months amounts to $1,521.88. The amortization here is $478.12 ($2,000 — $1,521.88). Going further, the amortization for each of the remaining two periods is as follows:

3% on $100,980.83 ($101,458.95 — $478.12) for six months is $1,514.71.

The amortization here is $485.29.

3% on $100,495.49 ($100,980.78 — $485.29) for six months is $1,507.43.

The amortization here is $492.57.

The total amortization as computed by the above arithmetical method is $1,927.03 as against the $1,930 premium to be amortized. The discrepancy, $2.97, is due to the fact that the effective interest rate, if determined algebraically or if ascertained by consulting a bond table, would be found to be a small fraction less than 3%. This would slightly decrease the effective interest and thus increase the amount to be amortized. Such small discrepancies are usually written off to Profit and Loss.

5. Journal Entries

The journal entries required to record the above facts are:

Bonds	$100,000.00	
Bond Premium	1,930.00	
Cash		$101,930.00

At end of six months:

Cash	2,000.00	
Bond Income		2,000.00
Bond Income	471.05	
Bond Premium		471.05

At end of one year:

Cash	2,000.00	
Bond Income		2,000.00
Bond Income	478.12	
Bond Premium		478.12

At end of eighteen months:

Cash	2,000.00	
Bond Income		2,000.00
Bond Income	485.29	
Bond Premium		485.29

At end of two years:

Cash	2,000.00	
Bond Income		2,000.00

Bond Income	492.57	
Bond Premiums		492.57

When the bonds are redeemed the entry would be:

Cash	$100,000.00	
Bonds		$100,000.00

6. Discount on Bonds

Like bonds bought at a premium, those purchased at a discount should be carried in Bond account at par, with their discount credited to Bond Discount account. Assuming the same purchase as in the foregoing illustration but at a discount instead of a premium, the journal entry would be as follows :

Bonds	$100,000.00	
Cash		$98,070.00
Bond Discount		1,930.00
To record the purchase at a discount of 100 X Y R. R. Sinking Fund 4's 1921, of the par of $1,000 each.		

As the discount will ultimately be collected from the obligor of the bonds when their par value is paid at maturity, it constitutes a deferred credit; but, like a premium, it applies neither to the moment of purchase nor of maturity. It represents an increase of income received in advance above the nominal interest and should be distributed over the entire life of the bonds. This is effected by adding to the nominal interest at each interest date the difference between the nominal and effective interest, and then recording the effective interest on the investment in Bond Income account and debiting the additional interest to Bond Discount account. This additional interest, allowed to accumulate until the maturity of the bonds, equals the discount received at their purchase. The entries in this case, so far as the amounts are concerned, are the same as in the preceding example—but whereas the amortization of a premium constitutes a credit entry, the accumulation of a discount is a debit entry, as follows:

Cash	$2,000.00	
Bond Income		$2,000.00
For amount of coupon.		
Bond Discount	471.05	
Bond Income		471.05
For amount of discount written off.		

Further illustrative entries of the discount covering the life of the bond are unnecessary as they are simply the reverse of those given in the preceding section.

7. Profit and Loss on Sale of Bonds

When bonds are sold before maturity, the Premium or Discount account is closed into Bond account to determine the full book value of the investment. The price received is then credited to Bond account to show the profit or loss on the sale and the net result of the investment, after which the profit or loss can conveniently be closed into Bond Income account.

Such is the procedure in the recording of ordinary transactions. If, however, the investment is made by a trustee acting in a fiduciary capacity who is legally required to distinguish between the principal sum invested and the income therefrom, the above method of accounting would not be correct. The profit or loss on the sale of the bonds would not affect income at all but would be regarded as an increase or decrease in the capital sum invested and would be so shown on the trustee's books.

8. Accounting for Bond Issue

The discussion so far in this chapter is confined to the accounting required on the books of the holder of the bonds. Bonds in this case are an asset. The treatment of bonds as a liability on the books of the issuing corporation is taken up in this and the following sections.

Problems arise in accounting for a bond issue similar to those which arise in connection with an issue of corporation stock. In the case of registered bonds a record of individual ownership is usually kept in a bond register similar in its ruling to the register or record of stockholders (see Volume II, page 337). If the bond is registered as to principal but bears coupons for interest payments, a record of individual holdings should be made. But if the bonds are payable to bearer and the possession of a bond is evidence of its ownership, no detailed records for bondholders are required.

In the financing of corporations the customary procedure is to sell the bond issue *en bloc* to bankers or to an underwriting syndicate. Often the terms of such sales are complicated and the entries required to record the transactions correctly must obviously express the facts of the terms. When the transaction is simple, as for instance, the sale of the whole of the bond issue for cash, the entry required is:

Cash	$100,000.00	
5% Mortgage Bonds Payable ..		$100,000.00

When only part of an authorized issue is sold, the balance remaining unissued for the present, the entries would be:

Unissued 5% Mortgage Bonds	$25,000.00	
Cash	75,000.00	
5% Mortgage Bonds Payable ..		$100,000.00

On the balance sheet the balance in the Unissued Bonds account is treated as an offset to the Bonds Payable account. The Unissued Bonds account, as its name implies, shows at any time the amount of bonds unissued.

9. Interest on Bond Issue

Interest payable on a bond issue should be entered in a special Bond Interest account. This account, which has no relation to the regular Interest and Discount account, is debited with the checks paid in liquidation of the interest charge. Large corporations with many thousand bonds outstanding usually deposit the interest payable on registered bonds as it falls due in a special bank account and issue the individual interest checks against this deposit. When interest is payable on the presentation of coupons to a trust company which is the custodian of the interests of the bondholders, a check is issued for the full amount in favor of the trustee. When the coupons are redeemable at the company's office, the periodical amount is charged in full to Bond Interest and credited to Coupons Payable. As the coupons are presented for payment, Coupons Payable account is charged and Cash credited with the amounts of the redeemed coupons.

10. Premium and Discount on Bond Issue

The same principles applied by an investor in bonds are applicable to the treatment of a premium received or a discount granted on the books of the corporation which issues the bonds. A premium represents the price received for a higher-than-market rate of interest, and a discount is in consideration of a less-than-market interest rate. It is therefore necessary to enter the bonds on the books at their par value and carry the premium or discount in separate accounts to be amortized or accumulated, as the case may require, over the life of the bonds. The entries to bring the premium or discount on the books, assuming a $250,000 bond issue at a premium or discount of 2%, would be:

Cash	$245,000.00	
Discount on General Mortgage Bonds ..	5,000.00	
General Mortgage Bonds Payable		$250,000.00
or		
Cash	255,000.00	
General Mortgage Bonds Payable		250,000.00
Premium on General Mortgage Bonds Payable		5,000.00

The dates when the payments of interest are due are usually made to coincide with the close of the fiscal period of the corporation which issues the bonds. At this time the entry covering the periodical adjustment of the premium or discount would be:

Premium on Bonds	$.....	
Bond Interest		$.....
or		
Bond Interest	.....	
Discount on Bonds		.....

When the date of interest payment does not coincide with the end of the financial term, at the closing of the books the accrued bond interest should be taken up on the books as an accrued expense; at the same time, the portion of the premium or discount accrued to that date should be amortized or accumulated as the case may require.

In the case of a bond investment or purchase it should be noted that the Premium account always shows a debit balance and is credited for amortization; and that the Discount account always shows a credit balance and is debited for accumulation. In the case of a bond issue the entries are reversed—as illustrated above.

REVIEW QUESTIONS

1. What accounts are required when the true investment value of a bond is to be shown on the books?
2. Give journal entries to illustrate the bookkeeping for amortization of bond premium.
3. What entry should be made when bonds purchased are sold before maturity?
4. Set up ledger accounts to show all the facts resulting from an original issue of bonds at a discount.
5. What entries are required when the dates of interest payment do not coincide with the end of the fiscal period?

CHAPTER XI

SINKING FUNDS AND ANNUITIES

1. Definition and Purpose

A sinking fund is composed of actual assets (usually money or securities) either set aside and allowed to accumulate at compound interest or added to by contributions from time to time. The theory of sinking fund operations is that any large sum required for the future financing of a business can best be accumulated by setting aside certain amounts at periodical intervals. Therefore such a fund is created to redeem or extinguish a debt, or to provide against anticipated losses, or to meet any other obligation the maturity of which entails an unusually large outlay and for which in consequence special financial provision must be made in advance.

The accumulation of the fund is not necessarily dependent upon the interest earned on the amount originally deposited, nor need the amounts deposited be allowed to accumulate at compound interest. But as a rule the redemption of long-term obligations is provided for by the setting aside of certain regular amounts which are left to accumulate in this way. The figuring of these amounts arithmetically involves laborious calculations which can more readily be solved algebraically or by the use of annuity tables. It is, however, necessary for the accountant to understand the arithmetical principles on which the solution of sinking fund and annuity problems are based and the more simple phases of the subject are taken up in this chapter.

2. Methods of Creating a Sinking Fund

Of the various ways of figuring a sinking fund the most common and the simplest are:

1. Equal annual amounts may be set aside—as for instance if it is desired to accumulate $20,000 in twenty years, $1,000 would be set aside each year. The interest earnings, not being considered part of the fund, go into the general income.
2. The amount of an annual instalment is determined, which at a given rate compounded will amount to the required sum in the given time and this sum is set aside and invested each year.
3. A certain amount based on the volume of production—as for instance $1 per ton of ore mineral—is set aside. The interest earnings may or may not be added to such funds.

Of the three above methods the figuring of the second method alone presents any difficulty. The annual instalment in this case represents an annuity and the method of computing an annuity needs brief consideration.

3. Compound Interest

The computing of an annuity is based on the principle of compound interest, whereby interest is earned on both the principal, or original indebtedness, and on the interest as it accrues from period to period. Thus, if \$1 is invested at 3% compound interest, during the first period simple interest only is earned, and at the end of the first period the principal to which the simple interest is added is \$1.03. At the end of the second period this sum, with compound interest, amounts to \$1.03 × 1.03, or \$1.0609. At the end of the third period interest compounded on \$1.0609 at 3% brings the amount to \$1.0609 × 1.03, or \$1.092727, and so on for any number of periods.

When the point is reached where the number of decimal places becomes unwieldy, the result is rounded off, or up to the number of figures required to insure approximate accuracy, depending upon the number of periods to be computed. As a general rule compound interest figures are carried to six places of decimals only. If the seventh figure is less than 5, it is simply dropped. If more than 5, the seventh figure is dropped but the sixth figure is increased by one.

The interest rate is always stated as so much a year, but interest may be compounded semiannually or quarterly, the most usual period being at the end of each six months. In this case the rate of interest will obviously be computed at half the annual rate and the amount of interest compounded at the end of each year will be slightly in excess of the amount that would be compounded at the end of a yearly period, as shown by the following table:

Interest Compounded	No. of Periods	Rate Per Period	Amount End of One Year
Annually	1	.06	1.06 = \$1.06
Semiannually	2	.03	1.03 × 1.03 = \$1.0609
Quarterly	4	.015	1.015^4 = \$1.061364

4. Computation of Compound Interest

The computation of compound interest arithmetically is a laborious proceeding and for this reason compound interest tables are usually consulted. These tables give the compound interest on $1 for any number of periods, at any customary rate. With the figures available as to the compound interest on $1, the compound interest on any number of dollars can, of course, be readily computed by simple arithmetic.

When tables are not available and it is necessary to make the arithmetical calculation, the figuring can be condensed by the use of the principle that $3 \times 3 \times 9 \times 27 = 2{,}187$. A shorter method of figuring is $3 \times 3 \times 3 \times 3 \times 3 \times 3 \times 3 = 2{,}187$. For instance, $1 placed at 3% compound interest would at the end of 16 periods amount to $1.604706, as calculated below:

1st period		$1.03
2nd period	1.03×1.03 =	1.060900
4th period	1.060900×1.060900 =	1.125509
8th period	1.125509×1.125509 =	1.266770
16th period	1.266770×1.266770 =	1.604706

5. Annuities and Amount of an Annuity

An annuity may be defined as a series of payments of like amounts on which interest is regularly compounded at stated periods. The amount of an annuity is the sum of all the payments plus the compound interest earned. The periodical payments are termed "rents" or "rents of an annuity." The rents may be due at the end of each period (as is usually the case) or at the beginning of each period. If due at the end of each period, the compounding of simple interest begins at the end of the second period. If due at the beginning of each period, the compounding of simple interest begins at the end of the first period. An annuity due at the end of each period is an ordinary or immediate annuity. One due at the beginning is called an "annuity due." The periodical intervals between payments may be of any length—a year, a half-year, a quarter, or a month.

To illustrate the computation of an annuity, assume that an agreement provides for four immediate annuity payments of $100 at intervals of six months and at 6% per annum. The amount of the annuity at the end of the second year would be determined as follows:

	Principal	Interest
1st payment end of 6 months	$100	
Interest end of 12 months		$ 3.00
2nd payment end of 12 months	100	
Interest on principal of $203 end of 18 months		6.09
3rd payment end of 18 months	100	
Interest on principal of $309.09 end of 2 years		9.2727
4th payment end of 2nd year	100	
	$400	$18.3627

Therefore the amount of the immediate annuity at the end of the second year would be $400 + $18.3627 = $418.3627.

To figure the amount of an annuity of many periods requires so many figures that the arithmetical solution is tedious if not impracticable. The computation may, however, be simplified by employing the following rule: To find the amount to which an immediate annuity will accumulate in a given number of periods at a given rate, figure first the compound interest which will accumulate on $1 at the same rate and for the same period. (If no compound interest tables are available, $1 must be multiplied by the interest rate, plus $1, the required number of periods and from the product thus derived $1 is deducted to give the compound interest on $1 for the required number of periods.) The compound interest on $1 must now be divided by the simple interest, and the quotient will be the amount of the rent of $1 for the required number of periods at the given rate. Having found the amount to which a rent of $1 will accumulate, it is then a matter of simple arithmetic to find the amount of a rent of any number of dollars.

Thus, if it is required to find the amount of an annuity of $500, payable half-yearly for 25 years at 6% compound interest, the solution would be:

$1 compounded for 50 periods at 3%	$4.383906
Subtracting the principal	1.000000
Leaving the compound interest on $1 for 50 periods	$3.383906

Dividing this by the interest for one period, $ .03, equals $112.79687, which is the amount to which 50 rents or periodical payments of $1 each at 3% compound interest will accumulate in 25 years. If 50 rents of $1 amount to $112.79687, by multiplication 50 rents of $250 amount to $28,199.21, i.e., the amount to which an annuity of $500 will accumulate at 6% in 25 years, paid semiannually.

6. Present Worth of an Annuity

The preceding problem covers the method of figuring the future amount of a series of rents or equal payments (the principal) plus compound interest. We have here to consider the present worth of a series of equal payments. The present worth of a single sum to be received in the future is a smaller sum which, put at interest, will amount to the future sum. To illustrate the method of ascertaining the present worth of a single sum, it is required to find the present worth of $1, due in four years with interest at 3% per annum. The required figure must evidently be such that when multiplied four times in succession by 1.03 the result will be $1. Therefore, by using the reverse process, division, the required figure may be obtained. Carrying the decimal to six places only the result is:

$1	÷ 1.03 =	$ .970874	present	worth	of	$1	at	1	period
.970874	÷ 1.03 =	.942596	"	"	"	"	"	2	periods
.942596	÷ 1.03 =	.915142	"	"	"	"	"	3	"
.915142	÷ 1.03 =	.888487	"	"	"	"	"	4	"
		$3.717099							

Having found the present worth of $1, the present worth of any number of dollars can readily be figured by simple multiplication.

To find the present worth of an annuity involves computing the present worth, not of $1, but of a series of future payments. We can, of course, find the present worth of all the payments; but labor is saved by computing the total in one operation. To do this we have first to compute the compound discount at the time and rate. The compound discount is the difference between the amount and its present worth. Thus, in the example above, $ .888487 is the present worth of $1 for four periods at 3%, and the compound discount therefore is

\$1 — \$ .888487 = \$ .111513; in other words, the compound discount of \$1 for four periods at 3% is \$ .111513. When this difference or discount is divided by the interest (.03), we obtain \$3.717099 which, as may be noted, is the sum of the present worth of the above series of four payments. From this, a rule may be constructed: To find the present worth of an annuity of \$1 for a given time at a given rate, divide the compound discount for that time and rate by the simple interest for one period, both expressed decimally.

We can now apply this rule to the figuring of a series of annuity payments. Assume, for example, that it is required to find the present worth of a series of 30 annual payments of \$1,250, with interest at 5%. We first ascertain what \$1 will amount to at the end of 30 years at 5%. This, by the multiplication of \$1 by 1.05 thirty times is found to be \$4.3219423. If \$1 amounts to this figure, then by division \$ .2313775 will amount to \$1 on the same basis. From this result we obtain the compound discount on \$1 for 30 years at 5% per annum, viz: \$ .7686225 (the difference between \$ .2313775 and \$1). In accordance with the above rule we divide the compound discount (\$ .7686225) by the annual rate (.05) = \$15.37245, i.e., the present worth of an annuity of \$1 for 30 years at 5%. Therefore the present worth of a series of 30 annual payments of \$1,250, at 5% compound interest, would be 15.37245 × \$1,250 = \$19,215.56.

It may assist in acquiring a clear idea of the working of an annuity if we illustrate the use of a present worth calculation. Suppose that an investor wishes to purchase an annuity which will return an income of

$1,250 for 30 years. The insurance company figures the present worth of such a series of payments as above. An analysis of the annuity payment ($1,250) shows that part of it represents interest on the principal and part of it a return of the principal.

The original principal invested is		$19,215.56
The first annuity payment is	$1,250.00	
5% on $19,215.56 is	960.78	
Difference represents return on principal		289.22
New principal = present worth at 29 periods ..		$18,926.34

If the series of payments is analyzed to the 30th period, it will be found that the final payment extinguishes the principal which has been returned together with interest on the decreasing present worth for each period.

7. Annuity Payments and Sinking Fund

The problem of finding the unknown present worth of a series of future payments is the reverse of finding the series of payments required to build up a known future worth. This future worth may represent a sum borrowed which has to be repaid, with interest on the decreasing capital, by a series of equal instalments. Or the future worth may represent the amount to be accumulated by equal payments in a sinking fund for the purpose of paying off future indebtedness.

To illustrate the figuring of the first problem, assume that a loan of $1,000 is made under an agreement to repay it in four equal instalments which are to include principal, and interest on the decreasing capital at 3%. In the preceding section we saw that $3.7171 is the present worth at 3% of an annuity composed of four payments of $1 each. If, now, four payments of $1 repay an original indebtedness of $3.7171, it is a simple matter to figure the four payments required to repay an original indebtedness of $1.

As an original debt of $3.7171 at 3% is repaid by four instalments of $1, therefore a debt of $1 is repaid by four instalments of

$$\frac{\$1}{\$3.7171} = \$\ .26903$$

and a debt of $1,000, by four instalments of $269.03.

Assuming that the instalments represent not the payment of a debt with interest, but the accumulation of a fund of $1,000 for the payment of a future obligation, the problem involved is to find the annuity which will accumulate at compound interest to the required amount in the given time. Reference to § 5, above, shows that $1 set aside annually and compounded, amounts after four years on a 3% basis to $4.183627. Therefore, if a fund of $4.183627 is created by the payment of $1 in four instalments, a fund of $1,000 is created by the payment of

$$\frac{\$1{,}000}{\$4.183627} = \$239.03$$

in four instalments.

As the figuring of sinking fund and annuity payments is based on the calculation of either the amount or the present worth of an annuity, it is necessary to keep clearly in mind the method of their computation and the difference between the two. The procedure and the rules may be briefly summarized as follows:

To figure the amount of an annuity:

1. Find the compound interest on $1 for the required periods at the given rate (i.e., interest only, not including principal).
2. Divide the compound interest by the simple interest, both expressed decimally.

To figure the present worth of an annuity:

1. Find the compound discount at the time and rate (i.e., the difference between the principal ($1) and its present worth).
2. Divide the compound discount by the simple interest, both expressed decimally.

Compound interest is found by multiplying the principal by one plus the rate of interest the number of times there are periods, using the number of periods as the power of the ratio of increase, e.g., $(\$1.00 \times 1.03)^4$. The original principal is then subtracted and the remainder is the compound interest.

The compound discount is found by dividing the principal by one plus the rate of interest the number of times there are periods, using the number of periods as the power of the ratio of decrease, e.g., $(\$1.00 \div 1.03)^4$. The result constitutes the present worth and if subtracted from the original principal the remainder is the compound discount.

8. Amortization and Sinking Fund

On comparing the instalments required for the repayment of the debt and the creation of the sinking fund (page 154), a difference of $30 is noted which is the annual interest at 3% on the original amount. If interest is to be added to the sinking fund contribution, the amounts paid would be the same in both cases. Gradual payments on account of a debt, or gradual accumulation with the object of canceling a debt by a single payment in full, amount to the same thing and exemplify the same principle. The application of the principle, however, differs, involving amortization in one case and accumulation in the other. The difference between the two methods is illustrated in the following tables:

AMORTIZATION OF DEBT OF $1,000

Principal	Instalment	Balance Principal	3% Interest on Principal	Payment on Principal
$1,000.00	$ 269.03	$700.97	$30.00	$ 239.03
760.97	269.03	514.77	22.83	246.20
514.77	269.03	261.18	15.44	253.59
261.18	269.03		7.85	261.18
	$1,076.12		$76.12	$1,000.00

ACCUMULATION OF SINKING FUND

Contributions	3% Interest Accumulations	Annual Addition	Total Amount Accumulated
$239.03		$ 239.03	$ 239.03
239.03	$ 7.17	246.20	485.23
239.03	14.56	253.59	738.82
239.03	22.15	261.18	1,000.00
$956.12	$43.88	$1,000.00	

The sinking fund method * accumulates a fund sufficient to pay off the entire debt at its maturity, the interest on the debt being paid separately. The amortization method accumulates nothing, but gradually reduces the debt by applying the excess of the periodical payment

* The calculation of annuities, amortization, etc., is a particularly technical and difficult process; one which can scarcely be made perfectly clear in a few pages. The student who is interested in this subject and desires to go into it at length, is referred to "The Accountancy of Investment" by Sprague and Perrine, or to other works of a similar nature.

over the interest on the principal to the reduction of the principal.

9. Accounting for Sinking Fund

The method of operating and accounting for a sinking fund when this is created to retire an issue of bonds or meet any other long-term obligation, is usually prescribed in the trust deed. This instrument designates the trustees of the fund responsible for the collection and investment of income, and usually provides for:

1. The amount to be invested periodically in the fund.
2. The kind of investment.
3. The method of redeeming the bonds.
4. The creation of a sinking fund reserve out of profits.
5. The payment of the expense of administering the fund.
6. The periodical accounting for the funds in the possession of the trustee.

The bookkeeping entries required to record the operation of the fund are thus dependent upon the provisions of the trust deed. Where these are elaborate, the entries are proportionately numerous. The procedure may be simplified by considering the entries under the heads of:

1. Payments into the fund.
2. Investments made by the trustees.
3. Income and expenses of the fund.
4. Redemption of the debt and closing of the accounts.

10. Sinking Fund Reserve

When the sinking fund is created for the purpose of liquidating a debt, a Sinking Fund Reserve account is usually opened, in which a portion of the surplus is set aside equal to the amount of the assets carried in the fund. The object in this case is to indicate that the assets in the fund are derived from profits which have been reserved for the purpose of its creation. If no reserve is set up and the sinking fund, under suitable title, appears among the assets, this does not indicate definitely that the latter are being reserved out of profits. Without the restriction of a sinking fund reserve, the assets may be acquired by the sale of additional capital stock or they may be secured by a reduction of other assets. If the deed of trust requires the setting aside of the sinking fund instalments "out of profits," a reserve account in addition to the fixed account would then be required.

A Sinking Fund Reserve account is sometimes found on the balance sheet with no offsetting asset account. The indication here is that the profits which are being reserved for the purpose of the fund have been reinvested in the business. In this event there is no assurance that specific funds will be available to meet the liability for which, presumably, a sinking fund was desired. Sinking Fund Reserve account merely represents an appropriation of surplus for whatever purpose may be indicated.

11. Records of Payments into the Sinking Fund

The entries required to show the original and subsequent payments into the fund are:

Cash in Sinking Fund	$.....	
Cash		$.....
To record periodical transfers of cash to the sinking fund trustee according to the terms of the trust agreement.		

Where the trust deed provides for the creation of a sinking fund reserve, the following and other entries to be given later are required:

Profit and Loss or Surplus	$.....	
Reserve for Sinking Fund		$.....
To record the periodical appropriation of profits set aside as a reserve for sinking fund.		

The trust deed may provide also that the reserve shall at all times equal the cash in the fund, in which case the reserve account must be credited with the income from the fund and debited with the expenses of its operation. These entries will follow later.

12. Sinking Fund Investments

At periodical intervals the trustee of the sinking fund hands in a report covering the investments made with the proceeds of the fund, the expenses in connection therewith, and the income derived from the investment. The fund may be used to purchase outside securities, or the bonds for the redemption of which the fund is created may be bought. These may then be canceled immediately; otherwise they should be held like any other investment, the interest received thereon being paid into the fund.

If the cash in the fund is used to purchase outside investments, entries are required to show the cost of the securities, the expenses incurred, and the income received thereon, as follows:

Investments for Sinking Fund	$.....	
Cash in Sinking Fund		$.....
To record investments of sinking fund from sinking fund cash by the trustee. (List here the securities purchased, with their price.)		
Sinking Fund Expenses	.....	
Cash in Sinking Fund		.....
To record expenses of sinking fund as itemized below.		
Cash in Sinking Fund	.....	
Sinking Fund Income		.....
To record collection of income on investment and interest on cash balance.		

13. Treatment of Income and Expenses

Practice varies in the treatment of income derived from, and expenses due to, sinking fund operations. Some accountants consider them as charges or credits to the current Profit and Loss, while others treat them as increases or decreases of the sinking fund reserve. If the income and expense accounts are closed into Profit and Loss, the journal entries required are:

Profit and Loss	$.....	
Sinking Fund Expenses		$.....
To close out the current charges to operations.		
Sinking Fund Income	.....	
Profit and Loss		.....
To close out the current income from sinking fund.		

If income and expense are treated as increases or decreases of the reserve, Sinking Fund Expenses and Sinking Fund Income accounts may be omitted and the income and expense posted directly to the reserve account as follows:

Cash in Sinking Fund	$.....	
Reserve for Sinking Fund		$.....
To record the collection by the trustee of interest and income on sinking fund investments.		

Reserve for Sinking Fund	.....	
Cash in Sinking Fund		.....
To record the payment of the expenses of the sinking fund by the trustee.		

14. Redemption of Debt

As already stated, the sinking fund may have been invested in the corporation's own bonds. In that case, the bonds may be canceled at their maturity. Otherwise, the outside securities in which the fund has been invested may be sold and the proceeds applied to the redemption of the debt. The following entries cover the purchase and the cancellation of the bonds:

Treasury Bonds in Sinking Fund	$.....	
Cash in Sinking Fund		$.....
To record investment of sinking fund in bonds of corporation.		

Bonds Outstanding	.....	
Treasury Bonds in Sinking Fund		.....
To record cancellation of bonds (at maturity).		

The sale of the securities in the fund and the redemption of the bonds with the proceeds thereof require:

Cash in Sinking Fund	$.....	
Sinking Fund Investments		$.....
To record sale of securities in the sinking fund.		

Bonds Outstanding	.....	
Cash in Sinking Fund		.....
To record redemption of bonds.		

15. Adjusting Entries

The amount realized on the sale of the securities will rarely exactly equal their book value and therefore the difference will require adjustment. This is effected by charging or crediting the reserve account with the decrease or increase in the amount realized on the sale. The entries required are:

Sinking Fund Investments	$.....	
Sinking Fund Reserve		$.....

or

Sinking Fund Reserve	.....	
Sinking Fund Investments		.....
To adjust the difference between the book and realized value of securities sold.		

If the amount realized on the sale of the securities is less than the sum required for the redemption of the bonds, a further contribution must be made to the fund; if the amount realized is in excess of requirements, the trustee will have a balance on hand. One of the following entries would then be required:

Cash in Sinking Fund	$.....	
Cash		$.....
To increase the fund to amount required for redemption of bond issue		

or

Cash	.....	
Cash in Sinking Fund		.....
To record receipt of balance of fund in hands of trustee.		

16. Disposition of Sinking Fund

Upon the payment of the bond issue the reserve must be disposed of in some way. It has served its purpose of retaining profits in the business for the redemption of the obligation and it now remains for the directors to determine what is to be done with it. As the reserve represents a withdrawal of profits from surplus, it may be thrown back into surplus and thus increase the amount available for dividend distribution. Such dividends may be paid in cash if available, or if a sufficiency of liquid assets is wanting, they may be paid in capital stock by means of a stock dividend. The bookkeeping entries which are required to close the sinking fund reserve into the Surplus account and to distribute it as a stock dividend are:

Reserve for Sinking Fund	$.....	
Surplus		$.....
To close sinking fund reserve.		
Surplus	.....	
Stock Dividend Payable		.....
To distribute surplus derived from sinking fund reserve.		
Stock Dividend Payable	.....	
Capital Stock		.....
To record the increase in capital stock outstanding.		

17. Illustrative Problem

To acquire facility in mentally journalizing the entries required to record a series of sinking fund transactions, the following series of facts are presented for journalization:

1. An issue of 100 20-year $1,000 bonds is sold for cash at par.
2. The trust deed requires the creation of a sinking fund reserve and the periodical setting aside of $5,000 out of profits for this purpose.
3. Provision is made for periodically setting aside cash equal in amount to the periodical increase in the reserve.
4. The cash in the sinking fund is to be invested in interest-bearing securities.
5. Income is collected periodically from the investments in the sinking fund, and the first collection amounts to $100.
6. Expenses amounting to $200 are incurred and paid at the end of the second period.
7. At the end of the 20-year period, the bonds outstanding are redeemed.
8. The sinking fund reserve is disposed of by closing it into Surplus.

The journal entries which are necessary to record the foregoing transactions are as follows:

Cash	$100,000.00	
Bonds Outstanding		$100,000.00
To record issue of bonds.		

Profit and Loss	5,000.00	
Sinking Fund Reserve		5,000.00
To record the periodical setting aside of profits as a reserve for sinking fund.		
Sinking Fund Cash	5,000.00	
Cash		5,000.00
To record setting aside periodically the amount of cash to be invested.		
Investments for Sinking Fund	.....	
Sinking Fund Cash		.....
To record investments of sinking fund cash.		
Sinking Fund Cash	100.00	
Sinking Fund Reserve		100.00
To record income collected periodically from sinking fund reserve.		
Sinking Fund Reserve	200.00	
Sinking Fund Cash		200.00
To record payment of expenses of maintaining sinking fund.		
Sinking Fund Cash	.....	
Sinking Fund Investments		.....
To record the sale of investments.		
Bonds Outstanding	100,000.00	
Sinking Fund Cash		100,000.00
To record disposal of reserve upon payment of the bond issue.		
Sinking Fund Reserve	100,000.00	
Surplus		100,000.00

REVIEW QUESTIONS

1. Give three methods of figuring a sinking fund.
2. What is an annuity?
3. Give a rule for figuring compound interest.
4. Give a rule for figuring an annuity.
5. Give an explanation of the present worth of an annuity.
6. What facts are usually shown in a trust deed covering the creation of a sinking fund?
7. What journal entry is required to record the receipt of interest on a sinking fund when the trust deed provides that all accumulations shall be added to the sinking fund?

CHAPTER XII

DEPRECIATION PROBLEMS

1. Principles and Policies

In Volume I, Chapter XXIX, elementary consideration is given to the principles of depreciation. Therein are taken up the causes of the shrinkage in asset values, the accounting required to record the shrinkage, and the methods most commonly employed in determining the depreciation rates. In this chapter further consideration is given to some of the matters discussed in the first volume. In the following chapter the records required in accounting for the depreciation of the fixed asset items are taken up and examples are given of more complicated bookkeeping entries than those hitherto shown. As an introduction to the chapters in this volume the reader is referred to Volume I.

In studying the general principles which govern the depreciation charge, it should be remembered that the depreciation policy varies widely in different industries and sometimes in similar businesses in the same kind of industry. In some cases depreciation is treated as a matter of appraisal to be determined less by the facts of the case than by expediency and present financial condition; in other cases, especially when the business is flourishing and the plant is kept in a high state of efficiency, repairs and replacements are often considered to offset the depreciation charge; and in cases where the plant and equipment are fairly homogeneous in their character, blanket rates are used to cover groups of assets in the expectation that the law of averages will bring about an equitable depreciation charge.

2. Appraisal of Depreciation

When there is no fixed policy as to the method of figuring depreciation, a common practice, especially in small enterprises, is to appraise the assets of the business at inventory time and charge the cost of operation with the difference between the new appraised value and the book value of the assets. This method has little to recommend it beyond its simplicity, while in the case of an organization of any size it is impracticable because of the large amount of clerical work involved in making the appraisal of widely different and fluctuating asset values. If these values are to be truthfully stated they must be figured on some consistent plan, subject, of course, to adjustment as changing conditions indicate.

A further disadvantage of the appraisal method is that asset values fluctuate with changes in market conditions, and the tendency when making the appraisal is to take into consideration present market values rather than actual cost and the actual facts of depreciation. The effect of depreciation in most cases is only discernible over a long period of years, and to attempt to value and revalue the assets at short intervals is impracticable. Consciously or unconsciously, the appraiser is compelled to estimate the shrinkage by one of the standard methods of rate determination, and the figures in consequence are based on calculations loosely made and not consistently adhered to. When loose approximations and guesses replace carefully calculated rates, the judgment is easily biased by the needs of the moment and the circumstances of the case. Provision for depreciation then becomes a matter of expedience—liberal amounts are written off in profitable years and very little, if anything, in lean years. For this reason, if for no other, the appraisal method is to be condemned.

3. Depreciation Replaced by Repairs and Renewals

An asset, such as a building, which depreciates slowly and the utility of which is not greatly decreased by wear and tear, shrinks in value as much through inadequacy and obsolescence as through actual physical decay. Therefore a liberal policy as to repairs and renewals cannot in such a case compensate for its depreciation. It is generally conceded that in only one case may an allowance for depreciation properly be replaced by a charge for repairs and renewals. In such a case the machinery or plant must consist of units of so short a life that the mere fact that the equipment is maintained in operating condition indicates that extensive renewals must continually be made to operate it at all. The depreciation charge is then covered by the expense of replacements and repairs.

4. Leaseholds

Land is frequently leased for business purposes, the lessee erecting his own plant; or if a building already exists on the land the lessee pays for the necessary improvements and alterations. At the end of the lease, the plant, together with such improvements as are not in the form of movable fixtures, becomes the property of the owner of the land or freehold. Under these circumstances the maximum term of life of the improvements is limited by the unexpired term of the lease of the property to which they are attached. If the enterprise is to avoid a loss of capital on the termination of the lease, provision should be made by means of a depreciation charge for the amortization of the original cost of the plant and improvements made by the lessee. In the event that improvements include the erection of buildings, their cost should be prorated over the period of the lease and charged off as rental expense. When a tenant holds premises for a term of years under a lease which requires that he make his own repairs and improvements, the ordinary repairs should be charged to current expense.

5. Estimation of Values

In estimating the value of an asset, any initial expenditures which it is certain will not need to be duplicated with the passage of time should be eliminated from the calculation. It is also important not to omit any expense which must necessarily recur when the plant is renewed. A careful analysis of all charges for repairs and renewals is therefore necessary in determining the cost of the asset and thus the amount to be depreciated. The only case where repairs are properly a capital charge is where a run-down plant is purchased at a reduced price with the intention of restoring it to first-class condition.

In estimating the depreciated values two precautions in particular should be observed. First, the estimates should be reviewed at intervals and corrections made for errors revealed with the lapse of time. In case of doubt as to the proper one of two rates, the better policy is to choose the higher, because a mistake is more easily corrected by increasing the values shown in asset accounts than by making unexpected charges to the Profit and Loss account.

The second caution relates to the assets covered by the calculation. While it is obvious that the same rate will rarely be applicable to radically different assets, assets of the same type may also require different rates. If a single percentage is used to cover the whole equipment of one department, the rate may be quite untrustworthy since the true rate of depreciation may vary with each piece of equipment—depending upon the nature of the work, the amount of idle machine time, and other conditions. Accuracy demands that each kind of equipment have its own depreciation rate and that a department rate, when this is computed, be a composite of the varying rates within a department.

6. Methods of Rate Determination

The work of fixing depreciation rates will be simplified if records are in existence which furnish information regarding the purchase price and the cost of all repairs made to every part of the plant and machinery. Such records (to be described in the following chapter) are valuable whether used for revising existing, or making future, depreciation rates.

Whatever method of determination is employed, the rate when finally adopted should be consistently adhered to over a period of years, thus testing the accuracy of the original calculations.

In calculating the depreciation rate the ordinary requirements of accounting are met by the use of one of the three plans described in Volume I, Chapter XXIX:

1. Fixed proportion methods
2. Per cent of diminishing value method
3. Sinking fund method

Of the above methods the fixed proportion plan may be based on either the life or the output of the asset, and the sinking fund method may be modified in different ways —as discussed in following sections.

In the illustrations of the different methods of figuring depreciation which follow, it is assumed that the assets shrink to their scrap value. In actual practice no industrial plant depreciates in this way. After a new plant has been in operation for a decade or more, values become fairly fixed, when a certain point is reached where replacements must equal the depreciation if the equipment is to render satisfactory service. They are then charged to the depreciation reserve.

7. Fixed Proportion Methods

The fixed proportion methods are so termed because the depreciation charge is figured in proportion to one of the three following bases:

1. The life of the asset measured in years
2. The life of the asset measured in working hours
3. The output of the asset

The corresponding methods of figuring are known as:

1. Straight-line method
2. Working hours method
3. Service output method

1. *Straight-Line Method.* Under this method the original cost of the asset, less its scrap value, is divided by the estimated number of years of its life, the resulting figure being the annual charge for depreciation, as shown in the following table:

STRAIGHT-LINE METHOD

Cost $655. Estimated life 10 years. Scrap value $65.50.

	Amount Written off 9% Annually	Total Amount Written Off	Net Worth	Per Cent Condition
1st year	$58.95	$ 58.95	$596.05	91%
2nd "	58.95	117.90	537.10	82
3rd "	58.95	176.85	478.15	73
4th "	58.95	235.80	419.20	64
5th "	58.95	294.75	360.25	55
6th "	58.95	353.70	301.30	46
7th "	58.95	412.65	242.35	37
8th "	58.95	471.60	183.40	28
9th "	58.95	530.55	124.45	19
10th "	58.95	589.50	65.50	10

The "per cent condition" given in the right-hand column of the above table represents the ratio of the equipment's net worth to its cost. At the end of the tenth year the per cent condition is 10%, or $65.50, this being equal to the scrap value of the machine.

The advantages of the straight-line method lie in the simplicity of its calculation and application, and for this reason it is more widely used than any other. The only disadvantage is that the same amount of depreciation is rigidly charged annually regardless of fluctuations in wear and tear. Thus, if unexpected conditions arise which necessitate working overtime, a machine estimated to last for 10 years may be worn out in half the time. Consequently, the application of this method to machines and other assets subject to fluctuating use makes necessary the revision of the estimated future life when the conditions of their operation may be changed.

2. *Working Hours Method.* This method avoids the rigidity of the straight-line method by making the depreciation charge proportionate to the use of the machine. This relationship is effected by estimating the number of working hours of a machine and making the charge for the actual hours worked. To illustrate, an asset costing \$655, with a scrap value of \$55 and an estimated life of 10,000 working hours, would be charged with \$ .06 depreciation for each hour of its operation.

A feature of this method of calculation is that it makes possible the application of the depreciation charge direct to the product and in consequence the plan is often used where costs are computed under the machine-hour and sold-hour methods (see Volume III). Where complete cost records are not available the plan is, of course, not practicable.

3. *Service Method.* In this case, instead of figuring depreciation on the time use of the asset, it is computed on the output or service rendered in volume, weight, or quantity. Where wear and tear can be measured in this way, this method has much to recommend it. For example, certain types of grinding and crushing machines or furnaces which burn out rapidly have usually a known capacity beyond which they cannot be economically, or in some cases safely, operated. Depreciation in these instances is an appreciable item of cost and to charge it directly to product is the most satisfactory method of distribution.

8. Per Cent of Diminishing Value Method

Under the "fixed percentage of diminishing value method" the depreciated amount is figured as indicated by its name. Thus, if the original cost of an asset is $1,000 and the depreciation rate is 25%, the first amount written off is $250, the second amount $187.50 (25% of $750), the third amount $140.62 (25% of $562.50), and so on until at the end of the eighth period the residual value is found to be $100.12. If the scrap value of a $1,000 machine is estimated at $100 and its life at 8 years, 25% would thus be the approximate rate to apply to its diminishing value. The exact figuring of the rate involves the use of an algebraic formula and as a rule the rate is found to be a decimal figure. Using the same figures as in the example illustrating the operation of the straight-line method, the rate of depreciation with the aid of logarithms is found to be 20.57%. By applying this rate to the original cost and to the diminishing value, it is found that at the end of the tenth year the depreciated value exactly equals the scrap value as shown in the table below:

PER CENT OF DIMINISHING VALUE METHOD

Cost $655. Estimated life 10 years. Scrap value $65.50.

	Amount Written Off 20.57%	Total Amount Written Off	Net Worth	Per Cent Condition
1st year	$134.73	$134.73	$520.27	79.43%
2nd "	107.02	241.75	413.25	63.09
3rd "	85.01	326.76	328.24	50.11
4th "	67.52	394.28	260.72	39.80
5th "	53.63	447.91	207.09	31.62
6th "	42.60	490.51	164.49	25.11
7th "	33.84	524.35	130.65	19.95
8th "	26.87	551.22	103.78	15.84
9th "	21.35	572.57	82.43	12.58
10th "	16.96	589.53	65.47	10.00

A study of this table shows that the amount written off the first year is more than twice that of the fifth year and about eight times the amount written off the final year.

The above table illustrates the chief feature of the fixed percentage method, viz., that the depreciation charges are heaviest when repairs are lightest, and vice versa. It is common knowledge that the installation and use of an asset for however brief a period, at once places it in the class of a "second-hand" article though the asset may be so little used as to be equal to new. Therefore the decreasing amounts written off year by year more nearly approach the actual facts of depreciation than do the equal amounts written off under the straight-line method.

The above method is perhaps applicable more to certain types of assets—such as highly specialized machinery which has little or no market value or which may at any time become obsolete—than it is to average conditions. The method finds favor among engineers and accountants because of the feature mentioned above—the equalization of the repair and depreciation charges. While this consideration must be given weight when only one asset of relatively high value is to be depreciated, in a large plant where new machines are being constantly installed and old ones discarded, the law of averages tends to equalize the repair and depreciation charges. A uniform rate of depreciation, such as the straight-line method, may then as nearly approximate the actual facts as does the more flexible diminishing value method, or any other plan which aims to give the actual depreciation value year by year.

9. Sinking Fund Method

This method of figuring depreciation, also known as the compound interest method, in no way differs in principle from the methods of computing annuity and sinking fund payments described in Chapter XI. As there stated, in the creation of a sinking fund the element of interest on the debt for the repayment of which the fund is created is ignored, whereas annuity payments include interest on the decreasing principal of debt which is gradually being repaid. If for the debt to be repaid is substituted the account to be depreciated (the difference between original cost and scrap value), the arithmetical solution is worked out in the way already described.

Applying these principles to the facts already given —an asset costing \$655 with a life of 10 years and a scrap value of \$65.50—and assuming the rate of interest to be 4%, the problem is to find the equal periodical payments which at 4% will amount to \$589.50 in 10 years. According to the rule in § 5 of Chapter XI, the amount of an annuity equals the compound interest for the period divided by the rate for the period, both expressed decimally. \$1 compounded at 4% for 10 years equals \$1.480245; that is, the amount of an annuity of \$1 for 10 years at 4% equals \$ .480245 (\$1.480245 — \$1) divided by .04, which equals \$12.006125. If an annuity of \$1 for 10 years at 4% accumulates a fund of \$12.006125, by division a fund of \$589.50 is created by annuity payments of \$49.10 at the same interest and over the same period—which is the solution to the problem.

The following table furnishes the proof of the above calculation and shows the operation of a sinking fund in tabulated form.

SINKING FUND METHOD

Cost $655. Estimated life 10 years. Scrap value $65.50.

		Amount Written Off Including Interest Accretions	Accumulated Total	Net Worth	Per Cent Condition
1st year	contribution to fund..	$49.10			
	Interest at 4%	1.96	$51.06	$603.94	92.20%
2nd "	contribution to fund..	$49.10			
	Interest at 4%	4.01	104.17	550.83	84.09
3rd "	contribution to fund..	$49.10			
	Interest at 4%	6.13	159.40	495.60	75.66
4th "	contribution to fund..	$49.10			
	Interest at 4%	8.34	216.84	433.16	66.89
5th "	contribution to fund..	$49.10			
	Interest at 4%	10.64	276.58	378.42	57.77
6th "	contribution to fund..	$49.10			
	Interest at 4%	13.03	338.71	316.29	48.29
7th "	contribution to fund..	$49.10			
	Interest at 4%	15.51	403.32	251.68	38.42
8th "	contribution to fund..	$49.10			
	Interest at 4%	18.10	470.52	184.48	28.16
9th "	contribution to fund..	$49.10			
	Interest at 4%	20.78	540.40	114.60	17.49
10th "	contribution to fund..	$49.10	589.50	65.50	10.00

Study of the foregoing table reveals that the amounts carried to the reserve increase at an accelerated rate with the life of the asset, due to the interest accretions which from $1.96 in the first year grow to $20.78 in the ninth year. An increasingly heavy burden is thus laid on operations during the later years of the life of the asset when the repair charges are high, resulting thereby in an unequal burden on the product. For this reason, where the depreciation charge affects the cost of production to any extent, one of the preceding methods is to be preferred.

While ordinarily the creation of a sinking fund implies that an actual fund of cash or other assets is set aside for accumulation at compound interest, the use of the compound interest principle in the figuring of depreciation does not necessarily imply that the depreciation charge is to be accumulated in this way. The mathematical device may be used merely as a convenient means of figuring the estimate. If no fund is created, and therefore no interest is earned and compounded, the amount to be written off annually should include the interest accretions. The sinking fund method is theoretically misapplied when used as a mathematical device only. If an actual fund is created and compound interest actually accumulated, the method is to be recommended for the reason that the depreciation charge is then equalized.

10. Composite Depreciation Rate

When estimating the amount of depreciation applicable to the various assets of a large plant, each item is not, of course, separately considered. Like assets are grouped in classes, the divisions are based on similarities, and the length of life of a group of like machines is determined by the conditions under which they are operated. A composite depreciation rate is then figured for each group and from these group rates the total amount of depreciation incurred by the plant as a whole is calculated. This composite rate is based on the average life of the different classes of assets and the average amount of depreciation. The method of computing such a rate is set forth in the following table:

COMPOSITE DEPRECIATION RATE

Group	Cost	Scrap Value	Depreciation	Life in Years	Annual Deprec'n
A	$ 25,000	$ 2,500	$ 22,500	10	$ 2,250
B	50,000	5,000	45,000	15	3,000
C	100,000	10,000	90,000	25	3,600
D	150,000	15,000	135,000	40	3,375
E	175,000	17,500	157,500	50	3,150
Total ..	$500,000	$50,000	$450,000		$15,375

From the above table it is seen that the total amount to be depreciated is $450,000, and the annual amount $15,375. Therefore, the division of the first figure by the second gives the average number of years of life of the whole plant, viz., 29.27 years. If $15,375 is credited annually for 29.27 years to Depreciation Reserve, the accumulation therein will represent the value of the entire plant (when new) less its estimated scrap value.

REVIEW QUESTIONS

1. What is the appraisal method of figuring depreciation?
2. Give three methods of calculating the depreciation rate.
3. What three bases may be used in connection with the fixed proportion method of figuring depreciation?
4. Which method of figuring depreciation is used to equalize the annual charge for depreciation and repairs?
5. Why may the rate of depreciation of machinery be increased when a plant begins to work on day and night shifts?

CHAPTER XIII

DEPRECIATION ON THE BOOKS

1. Classification of Plant Items

The assets of a plant are usually grouped according to their nature, similar assets being segregated. A uniform depreciation rate can then be set up for each segregated group. The following subdivisions are tabulated as probably covering the broad classification of the assets of a large manufacturing concern:

1. Buildings
2. Engines and boilers
3. Shafting
4. General machinery
5. Special machinery
6. Machine tools
7. Hand tools
8. Jigs, dies, patterns, flasks, etc.
9. Power plant
10. Electrical machinery
11. Cranes
12. Hoists

Each of the above items may of course be further subdivided, or the group accounts may be supplemented with individual asset accounts when it is necessary to watch closely the depreciation of particular items of equipment. Thus, in a steel plant separate accounts

No.				Class		
Size				Location		
Name				Building		
Description						
Purchase Price $				Date Installed		
Date	Installation and Repairs Capital Expenditure			Date	Repairs Charged to Expense	
	Labor	Material	Total		Labor	Material	Total

Form 3. (a) Plant Ledger Card (face)

DEPRECIATION RESERVE ACCOUNT

Class ____________ Depreciation Rate ________ %

No. ____________ No. Years' Life ____________

Original Cost $ ________ Annual Charge $ ________

Date	Year	Amount	Date	Year	Amount

Form 3. (b) Plant Ledger Card (reverse)

are sometimes opened with all blast furnaces so that accurate depreciation charges can be obtained in each case.

2. Reserve Accounts

A separate reserve account should be opened with the different classes of assets comprised under the general heading of plant and machinery or with each asset which represents a large investment. If one reserve account covers all the fixed assets, the rate of depreciation cannot be readily determined in a given case. A stone building, for instance, does not depreciate so rapidly as a frame building and if a separate reserve account is kept with each building, the facts of depreciation are much more clearly recorded.

When the plant is extensive and runs into thousands of items a subsidiary plant ledger is required to show the details of the investment in equipment of various kinds and the depreciation charges in each case.

3. Plant Ledger

While the plant ledger serves the same inventory purpose in its relation to plant, as does the stores ledger to stores (see Volume III, Chapter XI), its operation is slightly different. The debit side of a stores item card shows the purchases made, its credit side the amount consumed, and its balance the value on hand at any time. A plant ledger card gives the same general information as to plant items but in a different form. On one side or face of the card (Form 3a) a complete description of the machine and its location is given in the heading and an entry is also made of the original purchase price. In the spaces provided below, details are entered of the cost of installation and repairs, a distinction being made between repairs which are chargeable to expense and those which are chargeable to capital value. The entries relating to expense are merely memorandum entries for the purpose of showing the "career" of the asset. The record as a whole furnishes a complete history of the cost of the asset to date.

On the reverse side of the card (Form 3b) the full cost, i.e., the asset or capital cost of the plant items to date, the annual depreciation rate, and the annual charge are shown, together with the annual, not the monthly, amounts written off the asset. To credit in detail on the plant item cards, month by month, the numerous small sums charged to production for depreciation would not only entail considerable clerical work but would be a needless procedure since these charges are already listed on the depreciation schedule. Thus the reverse side of the card furnishes the record of the annual depreciation charges only and represents the Depreciation Reserve account of each plant asset, the original asset value of which is shown in the heading.

In large organizations the plant ledger is usually divided into sections, with the various items classified under the heads, as previously suggested.

4. Controlling Plant Account

A general ledger plant account may control the subsidiary plant ledger, or a separate controlling account may be opened for each section thereof if the subdivisions are not too numerous. At the end of the accounting period the control account is charged with: (1) the total purchases of plant; (2) the cost of installation if any; and (3) the full cost of plant additions manufactured or constructed by the factory staff. The amount of the purchases is obtained from the purchase journal, the cost of installation from time tickets and stores requisitions, and the cost of plant additions from a summary of all plant addition cost sheets chargeable to the current period. At the end of each cost period the balance in the general ledger Plant account (assuming only one controlling account) should equal the total of all the asset values shown on plant item cards.

5. Controlling Depreciation Reserve Accounts

Each general ledger Plant account requires an offsetting Depreciation Reserve account which is credited at the end of each fiscal or cost period with the current depreciation charges as shown on the depreciation schedule. The detail credit entries posted to the plant item cards at the end of each financial period should aggregate the various amounts credited to the controlling Plant account or accounts at the end of each cost period.

If the financial books are closed half-yearly, as is sometimes the case, half-yearly depreciation credits will, of course, be made to the plant ledger reserve accounts. The point to observe is that when the financial statement is drawn up, the estimated values of the plant assets should be given as at that date—which requires that the depreciation charged to production in Depreciation Reserve account be brought up to date and deducted from the controlling Plant account.

6. Illustrative Journal Entries

The journal entries required to record the depreciation charges are presented in Volume I, Chapter XXIX, and the method of handling this element of expense in cost accounting is explained in Volume III. There remains to illustrate the method of operating an asset account and its offsetting reserve account when the entries are complicated by the fact that, owing to the rapidity of the depreciation, the amounts carried to reserve may not be always sufficient to equal the value of the asset withdrawn from service or destroyed.

To illustrate the foregoing problem, assume that a concern's Automobile Delivery Truck and Depreciation Reserve accounts contain the following entries and that the rate of depreciation is 25% per year.

AUTOMOBILE DELIVERY TRUCK

Jan. 1	Trucks 1, 2, 3, and 4 at $1,200 each...	$4,800.00			

RESERVE FOR AUTOMOBILE DELIVERY TRUCKS

			Jan. 1	Reserve for Truck 1	$900.00
				Reserve for Truck 2	300.00
				Reserve for Truck 3	300.00

Assume also the following transactions:

1. On July 1 truck 1 is destroyed by fire and is replaced by truck 5 purchased on open account for $1,500.
2. Truck 2 proves unsatisfactory and on August 1 is traded in for $850 on the purchase of truck 6 costing $1,500. The difference is paid in cash.
3. Truck 3 is totally destroyed in an accident on September 1. It is insured for $750.

The journal entries as of September 1 to record the above series of facts are listed below in the same order as given. It should be noted that the first requirement in each case is to charge Operating Expense with the accrued depreciation to date:

(1)

Operating Expense	$ 150.00	
Reserve for Depreciation on Truck 1		$ 150.00
Depreciation on truck 1 for 6 months.		
Auto Delivery Truck 5	1,500.00	
Reserve for Depreciation of Truck 1	1,050.00	
Surplus	150.00	
Accounts Payable		1,500.00
Auto Delivery Truck 1		1,200.00
Replacement of truck 1 with truck 5.		

(2)

Operating Expense	175.00	
Reserve for Depreciation on Truck 2		175.00
Depreciation on truck 2 for 7 months.		
Auto Delivery Truck 6	1,500.00	
Reserve for Depreciation of Truck 2	475.00	
Auto Delivery Truck 2		1,200.00
Cash		650.00
Surplus		125.00

(3)

Operating Expense	200.00	
Reserve for Depreciation on Truck 3		200.00
Depreciation on truck 3 for 8 months.		
Reserve for Depreciation on Truck 3	500.00	
Auto Delivery Truck 3		500.00
Insurance Company	750.00	
Insurance Adjustment		750.00
To record insurance.		

Insurance Adjustment	700.00	
Auto Delivery Truck 3		700.00
To close Truck account into insurance adjustment.		

Insurance Adjustment	50.00	
Surplus		50.00
To transfer gain by accident.		

7. Ledger Accounts and Entries

After the above entries are recorded, the balances of all accounts affected as of September 1 would be as follows:

AUTO DELIVERY TRUCKS

Jan. 1 Trucks 1, 2, 3, 4...	$4,800.00	July 1 Truck 1	$1,200.00
July 1 Truck 5	1,500.00	Aug. 1 Truck 2	1,200.00
Aug. 1 Truck 6	1,500.00	Sept. 1 Truck 3	500.00
		Truck 3	700.00
		Balance	4,200.00
	$7,800.00		$7,800.00
Sept. 1 Balance	$4,200.00		

RESERVE FOR DEPRECIATION

July 1 Truck 1	$1,050.00	Jan. 1	$1,500.00
Aug. 1 Truck 2	475.00	July 1 Truck 1	150.00
Sept. 1 Truck 3	500.00	Aug. 1 Truck 2	175.00
		Sept. 1 Truck 3	200.00
	$2,025.00		$2,025.00

OPERATING EXPENSE

July 1 Depr. on Truck 1 ...	$150.00		
Aug. 1 " " " 2 ...	175.00		
Sept. 1 " " " 3 ...	200.00		

ACCOUNTS PAYABLE

		July 1 Truck 5	$1,500.00

Cash

	Aug. 1 Truck 6 .... $650.00

Insurance Company

Sept 1 Truck 3 .... $750.00	

Insurance Adjustment

Sept. 1 Truck 3 .... $700.00	Sept. 1 Truck 3 .... $750.00
Surplus 50.00	

Surplus

July 1 Loss on Truck 1 ... $150.00	Aug. 1 Gain on Truck 2 ... $125.00
	Sept. 1 Gain on Truck 3 ... 50.00

The final entry to record the depreciation accrued on trucks 4, 5, and 6 at September 1 would be:

Operating Expense	$293.75	
Reserve for Depreciation		$293.75
Depreciation truck 4, 8 months ... $200.00		
" " 5, 2 " ... 62.50		
" " 6, 1 month ... 31.25		

REVIEW QUESTIONS

1. What is a plant ledger?
2. Explain the bookkeeping expedient by which the sum of the details of the plant ledger always equals the total value of plant as shown by the general ledger.
3. Give journal entries illustrating the operation of a specific depreciation reserve.
4. What entry is required when an asset is sold for less than cost value but for more than book value; i.e., cost less depreciation?

CHAPTER XIV

CAPITAL STOCK ISSUES

1. Purpose of Corporate Stock Accounts

In Volume I, Chapter XXXIII, the nature of a corporation, the kinds of stock issued and the simplest method of accounting therefor, are taken up. As there explained, the amount of capital stock which a corporation may legally issue is stated in its charter, and this amount cannot be increased without legal formalities to protect the rights of the original contributors. Therefore, the corporate accounts should be so kept as to show at all times:

1. The amount of the authorized issue.
2. The amount actually issued.
3. The balance unissued.

As previously stated, the above information can be conveniently and readily shown by making a memorandum entry of the amount of the authorized issue at the top of the ledger account and recording below the amount actually issued. Under simple conditions, where a sole proprietorship or a partnership is transformed into a small corporation and the capital stock issued is promptly paid for in property or cash, this method may be followed and only one capital stock account is required. But when the issue involves the offer of some or all the capital stock for public or private subscription and the payment of shares in instalments, the accounting is of necessity more detailed and the entries become more complex.

2. Recording Actual Issues

The simplest of all methods and the one recommended by the majority of accountants, is to avoid all formal entries and to set up the capital stock only as issued. If the subscription to and payment of the issue are simultaneous, the journal entry required is:

Cash	$100,000.00	
Capital Stock		$100,000.00

This entry indicates that cash has been received immediately upon the allotment of shares and that the subscriptions have been paid for in full.

When the stock is first subscribed for and then paid for at a later date, two additional accounts are required to show the amount of (1) capital stock subscribed for, and (2) subscriptions received. To illustrate the operation of these accounts, assume that the authorized issue is for $200,000; that the subscriptions amount to $100,000; and that cash is received in payment of subscriptions at a later date than the subscriptions.

When the subscriptions are taken up, the entry is:

Subscribers	$100,000.00	
Capital Stock Subscriptions		$100,000.00

When the cash is received in payment of these subscriptions, the entry is:

Cash	$100,000.00	
Subscribers		$100,000.00

And when the shares of stock are issued by the company, the following entry records the fact upon the corporate books:

Capital Stock Subscriptions	$100,000.00	
Capital Stock		$100,000.00

The final result of these various postings is a debit to Cash of $100,000, offset by a credit to Capital Stock of $100,000—as in the previous example.

The ledger accounts and the method of presenting the facts on the balance sheet are as follows:

SUBSCRIBERS

Capital Stock Subscriptions	$100,000.00	Cash	$100,000.00

CAPITAL STOCK SUBSCRIPTIONS

Capital Stock	$100,000.00	Subscribers	$100,000.00

CASH

Subscribers	$100,000.00		

CAPITAL STOCK

		Capital Stock Subscriptions	$100,000.00

BALANCE SHEET

Cash	$100,000.00	Capital Stock	$100,000.00

The advantages of the above methods are: (1) that the accounts record only actual financial transactions, as until the capital stock is either paid or subscribed for no formal entry is made on the books of account; (2) that the amount of the authorized issue appears only as a memorandum note at the top of the Capital Stock account and any other data relating to the issue must be sought for in the minute book of the corporation.

3. Recording Total Authorized Issue

When formal entry is required of the total authorized issue, the simplest method is to set up an "Authorized Capital Stock" account offset by an "Unissued Capital Stock" account. To illustrate, assume the same facts as in the preceding examples—authorized issue $200,000 and subscriptions $100,000 which are paid for some time later.

The authorized issue is brought on the books by:

Unissued Capital Stock	$200,000.00	
Authorized Capital Stock		$200,000.00

As subscriptions are received for stock:

Subscribers	$100,000.00	
Capital Stock Subscriptions		$100,000.00

When the subscribers pay for their subscriptions:

Cash	$100,000.00	
Subscribers		$100,000.00

When the stock is issued:

Capital Stock Subscriptions	$100,000.00	
Unissued Capital Stock		$100,000.00

Ledger accounts for the above entries would appear as follows:

UNISSUED CAPITAL STOCK

Authorized Capital Stock $200,000.00	Capital Stock Subscriptions $100,000.00

AUTHORIZED CAPITAL STOCK

		Unissued Capital Stock	$200,000.00

SUBSCRIBERS

Capital Stock Subscriptions	$100,000.00	Cash	$100,000.00

CAPITAL STOCK SUBSCRIPTIONS

Unissued Capital Stock	$100,000.00	Subscribers	$100,000.00

CASH

Subscribers	$100,000.00		

A trial balance set up from the above accounts would be:

Unissued Capital Stock	$100,000.00	
Authorized Capital Stock		$200,000.00
Cash	100,000.00	
	$200,000.00	$200,000.00

As the unissued capital stock does not represent an asset, it should appear upon the balance sheet as shown below:

BALANCE SHEET

Cash	$100,000.00	Authorized Capital Stock	$200,000.00
		Unissued Capital Stock	100,000.00
	$100,000.00	Issued and Outstanding	$100,000.00

The effect of the above entries is the same as when stock is recorded only as issued. It should be noted that the memorandum account of Unissued Capital Stock disappears as soon as the entire issue of stock is floated. It would then be proper to change the ledger account "Authorized Capital Stock" to read "Capital Stock Authorized and Issued."

4. Payment by Instalment

If the stock is paid for in instalments and in response to regularly issued calls, an instalment book is kept in which is carried the detail as to the accounts due and paid by subscribers. The methods of handling each call on the ledger may be illustrated by the journal entries for recording the following facts: authorized issue $200,000; stock subscribed for $200,000; two calls have been made, each for $50,000; balance not yet called for.

The journal entries for the above facts would be as follows:

Unissued Capital Stock	$200,000.00	
Authorized Capital Stock		$200,000.00
To record authorized issue.		
Subscribers	200,000.00	
Unissued Capital Stock		200,000.00
To record subscriptions made.		
Instalment No. 1	50,000.00	
Subscribers		50,000.00
To record first call.		
Cash	50,000.00	
Instalment No. 1		50,000.00
To record payment of first call.		
Instalment No. 2	50,000.00	
Subscribers		50,000.00
To record second call.		

Cash	50,000.00	
Instalment No. 2		50,000.00
To record payment of second call.		

The ledger accounts and the balance sheet would be as follows:

AUTHORIZED CAPITAL STOCK

		Unissued Capital Stock.	$200,000.00

UNISSUED CAPITAL STOCK

Authorized Capital Stock	$200,000.00	Subscribers	$200,000.00

SUBSCRIBERS

Unissued Capital Stock	$200,000.00	Instalment No. 1	$ 50,000.00
		Instalment No. 2	50,000.00
		Balance — Subscriptions Not Called	100,000.00
	$200,000.00		$200,000.00
Balance	$100,000.00		

INSTALMENT NO. 1

Subscribers	$50,000.00	Cash	$50,000.00

CASH

Instalment No. 1	$50,000.00		
Instalment No. 2	50,000.00		

INSTALMENT NO. 2

Subscribers	$50,000.00	Cash	$50,000.00

BALANCE SHEET

Cash	$100,000.00	Capital Stock Authorized and Issued	$200,000.00
Uncalled Subscriptions.	100,000.00		
	$200,000.00		$200,000.00

5. Accounting for Different Kinds of Stock

When more than one kind of capital stock is issued, separate accounts are required to record the amounts issued, taken up and paid for in each case. Assuming an authorized issue of $200,000 of both common and preferred stock, of which $100,000 is subscribed and paid for some time after the subscription, the entries are:

Unissued Capital Stock, Common	$200,000.00	
Unissued Capital Stock, Preferred	200,000.00	
Authorized Capital Stock, Common		$200,000.00
Authorized Capital Stock, Preferred		200,000.00
To place the authorized issue upon the books.		
Subscribers to Capital Stock, Common ..	100,000.00	
Subscribers to Capital Stock, Preferred	100,000.00	
Subscriptions to Capital Stock, Common		100,000.00
Subscriptions to Capital Stock, Preferred		100,000.00
To record the subscriptions made.		
Cash	200,000.00	
Subscribers to Capital Stock, Common		100,000.00
Subscribers to Capital Stock, Preferred		100,000.00
To record payment of subscriptions.		
Subscriptions to Capital Stock, Common	100,000.00	
Subscriptions to Capital Stock Preferred	100,000.00	
Unissued Capital Stock, Common		100,000.00
Unissued Capital Stock, Preferred		100,000.00
To record the issue of stock certificates.		

The ledger accounts for the entries given above would be:

AUTHORIZED CAPITAL STOCK, COMMON

		Unissued	$200,000.00

AUTHORIZED CAPITAL STOCK, PREFERRED

		Unissued	$200,000.00

UNISSUED CAPITAL STOCK, COMMON

Authorized	$200,000.00	Subscriptions	$100,000.00

UNISSUED CAPITAL STOCK, PREFERRED

Authorized	$200,000.00	Subscriptions	$100,000.00

SUBSCRIBERS TO CAPITAL STOCK, COMMON

Subscriptions	$100,000.00	Cash	$100,000.00

SUBSCRIBERS TO CAPITAL STOCK, PREFERRED

Subscriptions	$100,000.00	Cash	$100,000.00

SUBSCRIPTIONS TO CAPITAL STOCK, COMMON

Unissued	$100,000.00	Subscribers	$100,000.00

SUBSCRIPTIONS TO CAPITAL STOCK, PREFERRED

Unissued	$100,000.00	Subscribers	$100,000.00

CASH

Subscribers, Common ..	$100,000.00		
Subscribers, Preferred .	100,000.00		

A trial balance drawn from these accounts would appear as follows:

Authorized Capital Stock, Common		$200,000.00
Authorized Capital Stock, Preferred ...		200,000.00
Unissued Capital Stock, Common	$100,000.00	
Unissued Capital Stock, Preferred	100,000.00	
Cash	200,000.00	
	$400,000.00	$400,000.00

The balance sheet entry, as before, would be:

BALANCE SHEET

Cash	$200,000.00	Auth. Capital Stock,		
		Common	$200,000	
		Unissued ...	100,000	
		Issued and Outstanding		$100,000.00
		Auth. Capital Stock,		
		Preferred ...	$200,000	
		Unissued ...	100,000	
		Issued and Outstanding		100,000.00
	$200,000.00			$200,000.00

REVIEW QUESTIONS

1. What information should the capital stock accounts always show?
2. Give a journal entry which will place the authorized amount of capital stock on the books as a formal entry when it is only partially issued.
3. What general ledger accounts are required to show at all times all the information needed in your answer to question No. 1?
4. Give entries required to show the receipt of partial payments on subscriptions to capital stock.

CHAPTER XV

PREMIUMS AND DISCOUNTS; TREASURY AND OTHER STOCK

1. Discount and Premium on Stock

The law of the State of New York does not permit the sale of corporate stock at a discount, though there is no legal inhibition of its sale at a premium. Where capital stock is sold at a premium, the proceeds in excess of the par value represent profits due not to operation but to the earning power and stability of the concern. For this reason, although actual cash has been received, conservative practice does not commend the distribution of stock premiums as a dividend. They are usually held in a premium account or transferred to a special surplus account or to a permanent reserve account until such time as they can be used to extinguish an asset of doubtful or wasting value.

The entries recording the sale of stock at a premium are:

Subscriptions	$55,000.00	
Capital Stock		$50,000.00
Premium on Stock		5,000.00
Cash	55,000.00	
Subscriptions		55,000.00

The Premium on Stock account may be looked upon as representing an account similar to capital surplus and not as an increase of capital due to operation.

In the majority of states, as in New York, stock cannot legally be issued below par, but when so issued in those states where it is permitted, the entry recording the discount should be to the expense account Discount on Stock. If the premium is carried permanently on the credit side of the balance sheet, consistency would demand that any discounts on stock be carried on the asset side until extinguished by premiums realized, by assessments levied on shareholders, or by appropriations of income or surplus for the purpose.

The stock of a manufacturing or trading organization is rarely sold above par when the corporation is first organized, but the stock of a bank or trust company is frequently sold in this way for the purpose of creating a surplus which appears on the balance sheet under the head of "Contributed Surplus."

One requirement in the case of national banks is the creation of a permanent surplus equal to 20% of the capital and for this reason the stock of such banks is usually issued at a premium of 20%, thus providing the legal surplus required.

2. Stock Without Par Value

In certain states the law permits the issue of capital stock without par value. If a corporation is organized with 1,000 shares, the value of each share represents one-thousandth part of the concern's net asset value and such value will of course fluctuate with the changing fortune of the enterprise.

Stock without par value should be recorded on the books at its sales price, Capital Stock account being credited with the realized value and Cash or other assets received charged therewith. An account with such stock would appear on the ledger as below:

CAPITAL STOCK WITHOUT PAR VALUE

Number of shares retired, using price at which they were credited to this account when sold.	Number of shares issued at sales price. Debit Cash or Subscriptions or any other account as case may require.

The corporate balance sheet should contain a notation, in the form of either a footnote or a note in the body of the statement, of the number of such shares outstanding and the amount paid in on each. In this way the amount of each unit of interest may be readily determined. Other classes of stock, and surplus, are stated in the regular manner.

3. Treasury Stock

Treasury stock consists of shares regularly issued for legal consideration but later reacquired by the corporation which issued them. As explained in Volume I, Chapter XXXIII, treasury stock may come back into the possession of the issuing company by donation or by purchase below, above, or at par.

In some enterprises and particularly in cases where it is difficult to place a correct value upon the property to be acquired and exploited, the financing of the undertaking is effected by means of the sale of treasury stock. A mine or other speculative enterprise, for example, usually issues at the outset its entire authorized capital stock in payment for the property acquired. Its assets then consist wholly of property procured by the issue of fully paid shares, the owners of which are liable to no further contribution. To provide working funds, some of the shareholders usually donate a portion of their holdings to the company for resale. The object of this proceeding is to enable a portion of the stock of the corporation to be sold at its market price in those states where the original stock issue cannot be offered for sale at less than par. Treasury stock can be resold, like any other property, at the price it will bring on the open market.

4. Accounting for Treasury Stock

While the term treasury stock is usually used to signify donated stock, it should be remembered that treasury stock may be acquired by purchase as well as by donation. In either case it is treated like an asset on the corporation's books. Whether purchased or donated, it should be debited to Treasury Stock account at par. The offsetting credit for purchased stock is, of course, wholly or partly to Cash; the offsetting credit to donated stock may be set up in either of two ways.

First Method. Since donated treasury stock is acquired without the exchange of any other asset or the creation of any liability, the capital surplus of the business is thereby nominally increased and credit for the donated treasury stock should be made to a special surplus account. It is not sound practice to credit the par value of this treasury stock to general Surplus account for two reasons: First, it might be taken to represent profits earned by the company, which, of course, is not true. The increase in surplus brought about by the acquisition of donated stock is not due to the operation of the business, and consequently the amount should not be included in the general surplus. In the second place, the par value is no criterion by which to gauge the value of the treasury stock. The fact of its donation is evidence, rather, that it is not worth its par value. Consequently, the credit should be made to a special surplus account, a convenient title for which is "Surplus from Donated Stock." The value at which it should be carried requires further consideration.

When treasury stock is received by donation, the entry is:

Treasury Stock (at par)	$50,000.00	
Surplus from Donated Stock		$50,000.00

If the stock is later sold for cash, the bookkeeping required is a debit to Cash and a credit to Treasury Stock for the amount received. If it is sold at par, then Surplus from Donated Stock represents a real surplus, because the net result of the transaction is an increase in cash equal to the par value of the stock donated. It is unusual, however, for treasury stock to realize its par value. If it is sold below par, the entry given above will leave a debit balance in Treasury Stock account. The balance should be transferred to Surplus from Donated Stock by the following entry:

Surplus from Donated Stock	$5,000.00	
Treasury Stock		$5,000.00

leaving in Surplus from Donated Stock a balance equivalent to the actual cash received from the sale of such stock, which is the real value of the stock donated. The account may then be closed into Surplus.

If the treasury stock is sold above par, Cash should be debited and Treasury Stock credited with the actual amount received. There will then be a credit balance in the Treasury Stock account. This balance represents a profit and as such may be closed into Surplus from Donated Stock. In this case as in the preceding one, Surplus from Donated Stock represents a real surplus because it is offset by an asset, cash. The surplus derived from the sale of donated stock is not usually considered as available for dividends because it does not represent ordinary business profits. The better practice is to hold the donated surplus in a special surplus or reserve account.

Second Method. Under this method the donated stock is assumed to be a reduction or concession on the price of the property for which capital stock is issued, and therefore the value of the stock reacquired is credited to the property account involved. The effect of this is to reduce the book value of the property and not to show a nominal profit as under the first method. This method is conservative and is favored by many accountants, on the ground that any reduction in the book value of property acquired by a corporation is to be recommended because of the natural tendency in such cases to overestimate the value of property acquired for capital stock.

To illustrate the accounting involved when donated stock is handled in this way, assume that the entire capital stock issue is given in payment for certain property rights, and part of the issue is returned to the corporation. The entries are as follows:

Property Rights	$20,000.00	
Capital Stock		$20,000.00
To record giving of entire issue of capital stock for property rights secured.		

Treasury Stock	10,000.00	
Property Rights		10,000.00
To record par value of shares of stock donated to treasury.		

When the treasury stock is sold, the nature of the entry depends upon whether the price secured is the same or is above or below the figure at which the treasury stock is carried. If the same, the entry is:

Cash	$10,000.00	
Treasury Stock		$10,000.00

If sold above this figure, the entry is:

Cash	$15,000.00	
Treasury Stock		$10,000.00
Capital Surplus (for excess)		5,000.00

If sold below this figure, the entry may be:

Cash	$8,000.00	
Capital Surplus (for deficit)	2,000.00	
Treasury Stock		$10,000.00

5. Treasury Stock Purchases

Not infrequently, a corporation purchases its own stock on the open market or in some other way. Such purchases are covered by principles and rules of law. The entries required to record the transaction when made at par, consist of a debit to Treasury Stock and a credit to Cash. The stock is usually held in the treasury until sold, when the entries are reversed. If a balance is left by the sale of the stock below or above par, the amount of it should be transferred to Surplus from Treasury Stock because it is an increase or decrease in surplus although not due to the operation of the business.

When treasury stock is acquired by purchase below par, the excess of the par value over the price paid represents a temporary increase in surplus. The entry for such acquisition of stock would be:

Treasury Stock	$5,000.00	
Cash		$4,000.00
Surplus from Treasury Stock		1,000.00

If the treasury stock is sold at its purchase price, the entry made at the time of the purchase is merely reversed. The entries necessary if the stock is sold above or below its purchase price need brief discussion.

6. Treasury Stock Purchase Below Par

Assuming that stock of the par value of $100 is purchased for $80, and sold for $90, the original entry would be:

Treasury Stock	$100.00	
Cash		$80.00
Surplus from Treasury Stock		20.00

The effect of the sale at $90 is to leave a debit balance of $10 in the Treasury Stock account, an increase in cash of $10, and a credit balance in the special surplus account of $20. By making the following entry:

Surplus from Treasury Stock	$10.00	
Treasury Stock		$10.00

the surplus account will contain a credit balance of $10 which represents a real surplus because it is offset by an increase in cash of that amount.

Assuming that the stock is sold at $70, a debit balance of $30 would be left in the Treasury Stock account, offset by a decrease in cash of $10 and a balance of $20 in the special surplus account. By making an entry transferring the debit balance of $30 to Surplus from Treasury Stock, a debit balance of $10 is left in the latter account which represents the loss on the transaction. When the actual profit or loss has been ascertained, the special surplus account which represents it should be closed into general Surplus.

7. Treasury Stock Purchase Above Par

When treasury stock is acquired by purchase above par, it is debited at par and Cash is credited for more than par; the excess must be debited to some account. If the stock is purchased above par, there is good reason to believe it may later be sold at a profit. Therefore, it is better not to charge the premium against general Surplus, but to hold it in a suitable suspense account such as Treasury Stock Adjustment. Assuming that stock of the par value of $100 is purchased for $110, the original entry would be:

Treasury Stock	$100.00	
Treasury Stock Adjustment	10.00	
Cash		$110.00

If sold at cost, the above entries are reversed; if sold at less than cost, say at $105, the following entry would be required:

Cash	$105.00	
Treasury Stock		$105.00

This leaves a credit balance of $5 in Treasury Stock, which should be closed into Treasury Stock Adjustment, leaving a debit balance of $5 in the latter account. This debit balance represents the loss on the transaction and should be closed into general Surplus.

If the stock purchased at 110 is sold above its cost, e.g., at 115, the first entry would be a debit to Cash of $115, and a credit of the same amount to Treasury Stock, leaving in the latter a credit balance of $15. The transaction has resulted in a realized profit of $5 which is properly transferable to Surplus, after the Adjustment Account of $10 has been closed out against the credit balance of $15 shown in the Treasury Stock account.

8. Treasury Stock on Balance Sheet

The method of showing treasury stock on the balance sheet is subject to some difference of opinion. Such stock is carried on the books as an asset, but, as it may or may not have any real asset value, its real nature must be ascertained when a balance sheet is to be prepared.

The purpose of the Capital Stock account is to show the stockholders' proprietary interest in the business. When a stockholder surrenders his capital stock, either by donation or sale for cash or some other asset, he ceases to have a proprietary interest. It is equally evident that the corporation can have no proprietary interest in itself. Consequently, the proprietary interest shown by the capital stock holdings amounts to the balance of the Capital Stock account minus the balance of the Treasury Stock account, the excess representing the present outstanding par value of capital stock. It seems clear, therefore, that Treasury Stock account represents an adjustment of the capital stock originally issued and that this adjustment should be shown on the balance sheet. This is done by deducting from the amount of capital stock issued the par value of stock held in the treasury, extending the net amount as the present outstanding capital stock.

9. Bonus Stock

On the organization of a corporation or when a new issue of preferred stock or bonds is offered to the public, common stock is sometimes given as a bonus to every investor who buys a bond or share of preferred stock. The common stock is thus offered as an incentive to purchase the securities which it accompanies. If such common stock is not full-paid and non-assessable, it is clear that the bonus will not be an inducement; therefore bonus stock is usually treasury stock, which has been donated to the company.

In accounting for bonus stock it should be borne in mind that as the stock is offered as a gift, it constitutes an expense which is generally carried on the books under the head of "Bonus" and treated as an organization expense. Assuming, for example, that a share of treasury stock is offered as a bonus on the purchase of a $1,000 bond, the journal entry to record such a sale would be:

Cash	$1,000.00	
Bonus	100.00	
Bonds Payable		$1,000.00
Treasury Stock		100.00

Another method of handling the bonus, less frequently met with, is to consider it as in part a discount on the bond. Presumably the object of offering a share of common stock to the purchaser of a bond is to enable the bond issue to be sold at par. Therefore it is obvious that the bond is being offered at a discount. If one share of treasury stock is offered as an inducement for the purchase of the bond at par, the correct entry would be:

Cash	$1,000.00	
Bond Discount	100.00	
Bonds Payable		$1,000.00
Treasury Stock		100.00

Though this method is more correct in principle than that first described, it is rarely adopted. The argument for handling the problem in this way is that a stock bonus which is offered as a discount on a bond issue should be shown as such on the books and treated accordingly.

10. Forfeited Stock

When a subscriber to capital stock fails to make the agreed instalment payments on the purchase of the stock for which he has subscribed, he forfeits his right to the shares and in some states the amount paid in. In the State of New York forfeited stock may be reissued or subscriptions may be received therefor as in the case of unissued stock. Payments made on stock which is declared forfeited constitute a profit and, as such, may be transferred to a special surplus account. When the shares are finally sold, any discount on the sale is properly an offset to the profit realized on the forfeiture.

The method of handling forfeited stock is first to reverse the original subscription entry and credit Surplus from Forfeited Stock with the amount of the forfeited cash payment. As an example, assume that \$5,000 worth of stock has been subscribed for and an initial payment of \$500 has been forfeited. The entries should be:

Capital Stock Subscriptions	\$4,500.00	
Subscribers		\$4,500.00
To reverse the amount subscribed for, which has been forfeited.		

As cash was credited to Subscribers when received, the next entry would be:

Capital Stock Subscriptions	\$500.00	
Surplus from Forfeited Stock		\$500.00

Assume now that the block of stock is offered for subscription and is sold for \$4,750 in cash. The following entries are required:

Subscribers	\$5,000.00	
Capital Stock Subscriptions		\$5,000.00
To record subscription to forfeited stock.		
Cash	4,750.00	
Surplus from Forfeited Stock	250.00	
Subscribers		5,000.00
To record payment of subscriptions.		
Capital Stock Subscriptions	5,000.00	
Capital Stock		5,000.00
To record issue of shares.		

Surplus from Forfeited Stock now contains a credit balance of \$250 which may be applied against any other sales of stock at a discount or closed into general Surplus.

REVIEW QUESTIONS

1. What is the law in most states with regard to the original issue of capital stock at a discount?
2. Explain capital stock without par value.
3. Give the journal entry necessary to record the repurchase and cancellation of capital stock.
4. What entry is required to record the sale of treasury stock for less than book value?
5. Give the best method, in your opinion, of accounting for donated stock previously issued for good-will.
6. Distinguish between treasury stock and unissued stock and show how each class should appear on a balance sheet.
7. Should surplus resulting from the sale of a corporation's own capital stock be paid out in dividends?

Part III
Valuation of Assets—Liabilities

CHAPTER XVI

CURRENT ASSETS

1. Nature of Current Assets

Current assets consist of cash or any other asset which in the ordinary course of business will be converted into cash (see Volume I, Chapter II). The usual current assets, listed in the order of their realizability, are:

1. Cash
2. Notes receivable
3. Accounts receivable
4. Merchandise stock-in-trade
5. Manufacturing inventory

The term "merchandise stock-in-trade" usually signifies the goods bought for sale by a mercantile house and is so used in this book. The term "manufacturing inventory" applies to the three classifications of raw material, work in process, and finished goods. The accounting in connection with the handling of a manufacturing inventory forms part of the subject of cost accounting. As such it is discussed in Volume III of this series and requires no further consideration here. The method of accounting for the other items listed above has been covered in detail in the first two volumes of this series. There remain for consideration in this chapter the problems which arise in the creation of a reserve for bad debts, in the assignment of accounts receivable, and in the valuation of the merchandise inventory.

2. Reserve for Bad Debts

The main problem in connection with accounting for the receivable items—both open accounts and notes—is that of estimating and recording the probable loss from bad debts. In determining the amount to set aside as a reserve against this contingency, past experience is the safest guide, although the class of trade catered to and the credit policy of the business are also determining considerations. While the average loss is much greater in some trades than in others, the loss varies greatly among concerns in the same line of business, much depending upon the thoroughness of the information and investigation made by the credit department as to the risk involved in each case. When accounts are accepted without close investigation or salesmen are permitted to grant credit, a much larger provision will be required to cover the possible loss than would be necessary when a cautious and consistent credit policy is followed.

It will generally be found that there is a fairly constant ratio between the loss from bad debts and the amount of sales over a given period—unless a general panic or other disturbance throws the delicate machinery of business credit out of gear. However, the amount of the estimated loss is a matter of individual decision and experience, as is also the basis on which it is determined. The latter may be either (1) open accounts at close of period, or (2) total sales on credit.

To base a percentage on the open accounts, while the most obvious method, is correct in principle only under certain conditions. When financial statements are made up only at the end of fiscal years and the amounts outstanding at those times are fairly constant, the loss from failure to collect should prove equally constant. But when the books are closed half-yearly or quarterly and the sales are seasonal—varying greatly in volume as between one half-year or quarter and another—there may be no logical relation between the amounts outstanding and the probable loss.

For example, in the garment, millinery, sporting goods, and other seasonal trades, the greater part of the wholesale sales takes place during a few weeks. If the closing of the books coincided with the end of the half-yearly or quarterly sales campaign, the ratio of loss to the amount of the open accounts would then be much less than if the books were closed at the opening of a selling campaign. In the last case all prompt payers would have remitted the amounts owing on the sales of the preceding period and the accounts still open on the books would contain more than the average number of doubtful and bad accounts. Accordingly, under these circumstances, the other basis would prove more reliable for computing the probable loss.

The most general method is to figure the estimated loss on the total sales. In all excepting retail businesses or those selling directly to the consumer, cash sales are usually a negligible factor as compared with the volume of credit sales. In the retail field, however, especially in a case where the ratio of cash to credit sales fluctuates from one fixed period to another, the more accurate base would be the total credit sales and on this the estimated loss on the accounts of a retailer is usually computed.

3. Valuation of Accounts Receivable

In the case of a new concern with no past experience on which to base the probable loss from bad debts, a fairly accurate estimate may be arrived at by making a careful classification of the accounts into good, doubtful, and bad—basing the classification upon any available information as to rating and standing.

In making this classification the length of time an account is overdue is only one criterion by which its realizability may be judged. The collection methods of the creditor may be at fault, the debtor may for a time be financially embarrassed, collateral may have been deposited with the creditor as a protection against loss, the general financial condition of a community in which the debtor lives may be temporarily under a physical handicap—as after a disastrous fire, earthquake, bad harvest, or the bankruptcy of an important local enterprise.

All the foregoing facts need consideration before classifying a particular account. An account receivable which seems to be bad may ultimately be collected and therefore no account should be ruled off the ledger unless its status as non-collectible is established beyond all reasonable doubt; e.g., if an execution has been returned unsatisfied or the debtor has received a discharge in bankruptcy. When accounts are ruled off, usually no further efforts are made to collect them; also, embezzlement of cash received on a closed account is easier than it would be if the account were open and thus invited attention.

4. Accounting for Bad Debts

As explained in Volume I, Chapter XXIX, the method of accounting for bad debts is to credit a reserve account entitled Reserve for Bad Debts at the end of each period with the estimated loss for that period. The offsetting debit is made to the expense account of Bad Debts. When a customer's account proves uncollectible, it is written off by charging it to the reserve account.

Inasmuch as the reserve is an estimate of probable loss, the accuracy of which is subject to test in later periods, the probability exists of the loss being under- or over-estimated. If underestimated, it is apparent that the asset value of the accounts receivable is inflated to the extent of the deficiency in the estimate; if overestimated, profits are understated and instead of the amount in the reserve account being solely a suspended credit to an asset, it includes also a true reserve of profits. If financial condition is to be truly stated, an under- or over-estimate of the loss in the past must be adjusted to accord with the newly determined facts of experience. This is effected, if the reserve has been underestimated, by the entry:

Surplus	$500.00	
Reserve for Bad Debts		$500.00
To charge an underestimated expense of previous periods.		

If the reserve has been overestimated:

Reserve for Bad Debts	$500.00	
Surplus		$500.00
To credit an overestimated expense of previous periods.		

An immediate adjustment of the full amount is better accounting practice than a gradual one effected by a slight increase or decrease in the allowance carried to reserve.

5. Income Tax Requirements

The sound accounting practice of providing a reserve for bad debts as described in the preceding paragraphs should always be followed, notwithstanding the fact that in certain cases the law may require other facts to be brought out. For example, the Federal Income Tax Law, as applied to the year 1918, provides that the amount charged as expenses and credited to the Reserve for Bad Debts has no significance in determining the amount of expenses deductible for income tax purposes. The only deduction allowed is the amount of bad debts actually written off as uncollectible.

As an illustration, assume that the charge for bad debts with a corresponding credit to the reserve account for 1918 was $500, but that the amount of accounts actually charged off was $400. In this case, the amount of the expenses of the business would be reduced from $500 to $400 in the preparation of the income tax return. The unused portion of the Reserve for Bad Debts, namely $100, would, of course, be considered part of the invested capital. If the Reserve for Bad Debts as set up on the books is to be ignored, it represents a portion of the capital of the business to the extent that it exceeds the amount of the loss as actually reported to the government. Therefore, if the reserve of \$500 as set up on the books is reduced to \$400 to correspond with the accounts actually written off, the \$100 excess is considered part of the invested capital in calculating that figure for income tax purposes.

6. Assignment of Accounts Receivable

A growing business frequently finds itself with a limited amount of cash and a large number of customers' accounts on its books. In such a situation the practice is sometimes adopted of assigning the collection of the open accounts to a bank or other concern which advances immediately from 70% to 80% of their face value and pays the balance, less commissions and expenses, when the collections are completed. When a balance sheet is drawn up, the amount of the unassigned accounts receivable should appear first, followed by the total face value of accounts assigned, under the caption of "Accounts Receivable Assigned." Offsetting this hypothecated asset, the amount advanced by the assignee should appear on the liability side under some appropriate caption, such as "Loan on Assigned Accounts."

The appearance of these two accounts on the balance sheet makes clear the bookkeeping procedure. Accounts Receivable Assigned account is charged with the face amount of the assigned accounts. Loan on Assigned Accounts account is credited with the advance (the offsetting debit being to Cash) and debited with the sums collected by the assignee (offsetting credits being made to the customers' accounts affected).

It is seen, therefore, that the accounting procedure in connection with the assignment of accounts receivable is similar to that involved in handling discounted notes receivable. Since the accounts are not sold, the merchant must make good any loss to the assignee, in the same manner as he would have to make good a dishonored note receivable discounted at a bank.

Each account receivable assigned should be recorded in a special register. When an account is collected, an entry to that effect is made in the register. Upon final settlement with the assignee, all accounts in the register not marked as collected must be accounted for by the assignee, either in cash or by a return of the claim against the debtor.

7. Merchandise Inventory

The merchandise inventory consists of the items of stock-in-trade manufactured or purchased by a business for the purposes of sale. In accounting for the merchandise inventory, many perplexing points arise which can be satisfactorily solved only by adherence to a fixed policy based on sound and conservative principles. These points include the treatment of goods out on consignment or the goods of others held on consignment, the problems of inventory pricing and depreciation, and the distribution of overhead and carrying charges over the items of the inventory.

In taking the inventory, any merchandise held for sale on consignment or in trust for any purpose and therefore not the absolute property of the business, should not be included in the count. Conversely, goods which are out on consignment and which in consequence are held in trust for the business by others form part of the current inventory.

Merchandise just received for which no invoice has come to hand and for which no liability has been entered on the books, obviously forms no part of the current inventory. Similarly, sales may be recorded for goods which have not yet been shipped, and returns may have been received for which no credit has yet been given. Unless care is taken to separate such items from the rest of the stock-in-trade, they are likely to be included in the inventory count. Care should also be taken to include therein any goods for which credit has been given but which have not yet been delivered by vendors or returned by customers.

8. Depreciation on Stock-in-Trade

Part of the stock-in-trade of every mercantile business depreciates through various causes even though merchandise cannot be considered either as a fixed or a wasting asset. Goods may be injudiciously bought in excess of the demand and deteriorate while kept in storage. Wares used for window and counter display purposes depreciate rapidly. A radical change in style or fashion or the progress of invention may reduce the selling value of a particular line to less than cost. And in every business articles accumulate in odd sizes, broken numbers, and remnants which constitute the scrap material of the sales department.

The common method of disposing of such depreciated stock is to offer it to the customer at cost, or less than cost, as a bargain, and a loss incurred in this way is reflected in the gross profit. After every effort has been made to dispose of the depreciated stock by means of its forced sale, a certain quantity will always remain on hand at inventory time. To carry such stock on the books at its cost price would be an obvious inflation of asset values. The books should show the effect of the depreciation on the marketability of the goods. The proper valuation basis is the market price —the current price at which goods of similar kinds and qualities can be purchased. The difference between the depreciated value of the goods and their original purchase price should be set up in a Stock Depreciation Reserve account and the resulting loss closed out to Profit and Loss.

Any deterioration the effect of which is to make the stock less salable is an expense chargeable against the present period, and not chargeable against the period in which the sale is made. Therefore, when the reserve is set up, the entry would be:

Profit and Loss	$800.00	
Stock Depreciation Reserve		$800.00

and when sales at the reduced prices have taken place, periodical entries should be made for the amount of the reduction:

Stock Depreciation Reserve	$300.00	
Merchandise		$300.00

9. Pricing of Merchandise Inventory

When considering how merchandise should be carried on the books, two theories are advanced: (1) the showing should be based on cost or current market price—whichever is the lower figure; (2) the showing should always be at cost regardless of fluctuations in market value.

The most general practice, supported by world-wide business usage, is to carry the stock-in-trade at the lowest figure consistent with truth. From the point of view of conservatism the goods are worth to the business exactly what they would cost were they to be replaced—and no more. Should the merchandise be destroyed by fire or the business be sold as a going concern, no higher value could be placed upon the inventory than the cost of its replacement, i.e., its current market price. Therefore, to carry the item on the books at its cost price when the current market price is lower, is to inflate the value of the assets to the extent of the difference between cost and market.

In the case of a business dealing in varied articles the purchase price of which fluctuates little if at all, it would seem unnecessary to pay attention to slight changes in stock values. Such a business usually operates on a fixed percentage of profit, and buys only for current needs. Any considerable fall in the value of the stock on hand would be more likely to be due to depreciation or obsolescence than to market values.

In the case of a business dealing in a staple commodity such as cotton, copper, or any product the price of which fluctuates because of changing market conditions, the situation is altogether different. Under these circumstances, to carry the stock on the books at cost when the market price is lower might greatly exaggerate the net worth of the concern. The transactions of such a business are to a large extent speculative in character, and to conceal a serious loss by failing to state inventory values at their proper figure is obviously misleading and in some cases may be done with fraudulent intent.

The contention raised against valuing stock-in-trade at a figure lower than cost is that a loss is thereby taken up on the books which may never be realized. To anticipate a profit by valuing the merchandise at a price higher than cost when the market price rises, is contrary to the principles of sound and conservative accounting. Therefore, it is contended that no loss should be anticipated until realized when the goods are sold, and hence the merchandise should be carried at cost.

The arguments for and against the different methods of carrying the inventory may be settled by a compromise. When the market value is much less than cost, the depreciated value can be shown on the books and financial statements by setting up a reserve under a suitable title such as "Reserve for Stock Depreciation." The reserve is accumulated out of profits by crediting this account and charging Profit and Loss account at the end of the period with the difference between the market and cost prices of the inventory. The advantage of this method is that, while the inventory is retained on the books at its original figure, a portion of the profits are earmarked as a reserve and held to cover any possible capital loss through a permanent decrease in the value of the inventory. A permanent decrease is noted as follows:

Stock Depreciation Reserve	$500.00	
Merchandise		$500.00

This reserve is handled in the same way as that for depreciation on stock-in-trade already discussed.

10. Overhead Applicable to Stock-in-Trade

So far, the consideration of the merchandise inventory has covered only one phase of the problem of its correct pricing. The matters of overhead and depreciation also affect the price at which it is carried on the books. To the invoice price of the merchandise should be added any additional charges incurred in its delivery to, and its subsequent storage in, store or warehouse. Such costs include freight, cartage, insurance during transit and storage, warehouse charges, and the like. The general practice is to record these items in separate accounts which are ultimately closed out to Purchases account.

At inventory time the problem arises of apportioning these costs over the units of stock remaining unsold. In the majority of cases the cost of freight and cartage can be loaded on the original invoice price, and the unit price of the goods covered by the invoice is thereby increased. Charges for warehousing, insurance, and the like being applicable to all goods, must be charged on some equitable basis to each unit sold. A percentage rate on value will usually be sufficiently accurate and will at the same time simplify the problem of distribution. The precise method, however, is unimportant. The essential thing is a consistent policy whereby the full costs of the merchandise inventory are taken up on the books.

11. Insurance of Merchandise Inventory

An important matter relating as much to managerial policy as to accounting is the carrying of adequate insurance to cover the full value of the stock-in-trade. The value of the fixed assets is a definite amount not subject to rapid fluctuations, and these assets in consequence can be protected to their full value once and for all when acquired. The amount of stock-in-trade, however, rises and falls in many businesses with the seasons or with market conditions. It is part of an accountant's duties to safeguard the interests of the business by seeing that the fire insurance carried on the stock-in-trade is sufficient to cover the value of the asset, while at the same time avoiding the expense of over-insurance.

This can be accomplished by comparing the policies of insurance with the record thereof and examining each policy to ascertain the following:

1. That the amount of insurance carried during each month is sufficient to cover the average merchandise stock.
2. That the stock of merchandise is described in precisely the same words in each policy, and that the location of the stock is also properly stated in each policy.
3. That the description of the merchandise covers fairly and adequately the merchandise in the inventory.
4. That the coinsurance clause (if any) is identical in all policies covering the same property.
5. That special privilege clauses are attached to, and made part of, each policy.
6. That if a chattel mortgage exists against the merchandise, each policy has the mortgage clause duly attached.
7. That in all other respects the insured is observing the terms of the contract of insurance as stated in the policies.

REVIEW QUESTIONS

1. Give examples of current assets.
2. What in your opinion is the correct basis for figuring a reserve for bad debts?
3. Give the entry required when a collection is made on an account previously charged off to Reserve for Bad Debts.
4. Name several points that require special consideration in verifying the value of an inventory.
5. How should an inventory be priced—at cost or market value?
6. Give seven points which should be considered in examining insurance policies covering stock on hand.

CHAPTER XVII

FIXED AND WASTING ASSETS

Fixed Assets

1. Nature of Fixed Assets

The fixed or "capital" assets include all property of a permanent or fixed character used in the conduct of a business. They are so termed because they represent the capital investment which is essential to the undertaking and which cannot be disposed of in its entirety without causing the dissolution of the business. The property generally consists of land, the buildings thereon, and the machinery, furniture, fixtures, and other equipment. Also to be included among the fixed assets are any permanent investments such as working capital loaned to an affiliated company; the stocks of another concern bought for purposes of control; and sinking fund investments which are held for a specific purpose and can be used only for that purpose.

The method of carrying the fixed assets on the books presents nothing new in principle and but brief consideration need be given to the application of these principles. The chief problems in connection with accounting for fixed assets relate to the manner of determining and recording the depreciation on items of plant. These matters have already been adequately covered in Chapters XII and XIII. There remain for consideration here a few points concerning the valuation of the fixed and wasting assets and the methods of recording changes in their valuations on the books where such changes are brought about by causes other than depreciation.

2. Fluctuations in Land Value

Land used for business purposes, unlike other fixed assets, is not subject to wear and tear, nor does its value as a rule fluctuate rapidly. In the majority of cases the tendency is for it slowly to appreciate concurrently with the development of a city or district and the growth of a community. An assumed appreciation should, however, not as a rule be taken up on the books, for the reason that ordinarily no appreciation can be considered as such until realized. In the rare cases where the appreciation can be definitely considered as a realizable asset it may with propriety be shown. This would be permissible where an increase of assessment value over cost indicates that the appreciation of land is a very real asset. As such appreciation is not reflected in increased profits but may even result in diminished profits due to an increase in taxation and other expenses, it would seem proper to increase the net worth of the business by the amount of the appreciation. This would be effected by the entry:

Appreciation of Land	$3,000.00	
Land Appreciation Surplus (or Reserve)		$3,000.00
To take up the appreciated value of the land as appraised by		

Prudent financial considerations would require that the estimate of the increased value be made by an independent appraisal company.

Land does not as a rule depreciate in value where stable business enterprises are carried on. In the rare cases where its value decreases it would seem proper to carry it at its original cost, so long as it proved adequate for the purpose for which it was bought. Its account represents the cost tied up in it and the amount on which profits must be earned. So long as the business is operated at a profit, the land is worth its original purchase price.

For business reasons land may sometimes be purchased at a price higher than the market value of similar surrounding land. The conservative valuation of assets would then indicate that the excess paid might be charged to operation as follows:

Land Depreciation	$5,000.00	
Land Depreciation Reserve		$5,000.00
To reduce the cost of the asset to its market value.		
Profit and Loss	5,000.00	
Land Depreciation		5,000.00
To charge to current operations the diminished value of the asset.		

3. Land Investments

Land may be purchased either for use or as an investment. The object for which it is bought affects to a slight extent the method of its accounting. If bought with the object of erecting buildings or using existing structures for manufacturing purposes, expenditures on grading, draining, leveling, and similar improvements may with propriety be added to the purchase price and included in the value of the land. If the land is bought for investment, the carrying charges and the cost of improvements may also be capitalized; but, instead of adding these charges to the capital value of land (and thus to surplus), they should be shown in a separate Land Improvements or Land Development account. At the same time a reserve should be set up out of profits equaling the carrying charges and expenditures on the land which have been capitalized.

The reason for this difference in accounting treatment is that land in use may generally be assumed to be worth its purchase price plus the expenditures required to adapt it to a particular purpose; whereas, when land is bought as an investment it is problematical whether the capitalized value of the cost of the improvements and other expenditures will be realized in its sale price. If the capitalized charges are not realized, then surplus will have been fictitiously increased to the extent of the loss suffered on the sale. By offsetting the development charges with a reserve of the same amount, the risk of distributing the surplus in dividends is avoided.

4. Accounting for Land

If the purchase price of real estate includes any buildings on the land, the cost of the land should be separated from that of the buildings and each item should be carried in its own account. The term "real estate" is too inclusive to use as an account heading, in view of the fact that the rate at which different assets depreciate varies in each case. As noted above, land seldom depreciates, at least to the extent that the expense must be provided for; but buildings, even before they are first occupied, begin a very steady process of declining value. Consequently, each kind of real estate property should be stated separately.

The value of land should be set up on the books at its full purchase price. This includes all legal fees and any taxes or assessments for improvements owing at the date of its purchase. As a rule, all land holdings though purchased at different times are held in one account if the land owned is in one place. If the land consists of a number of widely separated lots and the taxes and other assessments on the different holdings vary, separate accounts for the various parcels of land are to be preferred.

When land is purchased for resale purposes and is held as a current asset—as by a real estate company—it constitutes the raw material of the business and should be so accounted for. All development and carrying costs should be capitalized during the development period. When the development is completed, subsequent carrying charges may be capitalized, in which case a reserve against possible loss on the selling price should be set up. When a lot is sold, this reserve should be adjusted; if any part of the reserve is recouped in the sales price of the lot, the amount thereof may be transferred to Surplus.

5. Buildings

Buildings should be recorded at their full cost. In the case of an old building, this includes purchase price, legal fees, and expenditures on renovations, repairs, and renewals; in the case of a new building, the full cost of its construction. When the construction work is done by an outside concern, the price paid to the contractor and the fees of the architect are generally included in the cost of the work. When the construction is carried out by the business itself, the costs include material, labor, and a proper proportion of overhead to cover the facilities and the supervision afforded by the factory organization.

Authorities differ as to whether or not it is correct to capitalize the cost of tearing down and removing old buildings or of indemnifying existing tenants for loss or inconvenience suffered through their dispossession. As such expenses in no way add to the value of the new building, it would seem the better practice to charge them to expense unless it can be proved that the expense of wrecking the old building is more than covered by the increased value of the new structure. In a congested city, where the destruction of an out-of-date though not outworn building is more than compensated by the conveniences and greatly increased floor area of the new premises, the cost of removing the old building is usually added to the capital value of the new construction.

6. Repairs and Improvements to Buildings

As already stated, expenditures for the repairing and renovating of an old building, when purchased for use, may be properly considered a capital charge. The necessity of making the repairs may be assumed to have been taken into consideration when the purchase price was fixed. After the building is occupied, the repairs and renewals required to maintain it in adequate condition for use are obviously expense charges. When any renovations or changes in structure are carried out which entail a large and unusual expenditure, the propriety of capitalizing all or any part of such expenditures should be considered. The general principle applicable to the solution of this problem, as discussed in Chapter IV, is that no expenditure can be properly treated as a capital outlay if it does not increase the earning capacity of a business. As renovations and structural changes are made for the sake of convenience and efficiency and thus indirectly increase the earning capacity of a plant, it would seem proper to treat them as capital outlay. Such improvements, however, are frequently made when extensive repairs become necessary, in which case their cost might be little more than the necessary outlay on the accrued repairs.

There are two methods of insuring the drawing of a correct distinction between expenditures for repairs and renewals and those for capital improvements. The most general method is to estimate the annual expenditure required to keep the building in good condition and to bring this amount periodically on the books as a credit to Reserve for Repairs account and a debit to Repairs, which is charged to Profit and Loss on operation. As repairs are actually made, their cost is not charged to operation but to the reserve created for the purpose. During the early years of the life of the building the reserve accumulates, to be drawn upon later as repairs and improvements are carried out. The advantages of this method are that the reserve account shows over a term of years whether the amount estimated as required for repairs has been adequate, while at the same time it spreads the charge for major repairs equitably over a long period of time and insures their steady application against revenue. Under present tax conditions, however, reserves for repairs should be avoided because only actual expenditures for repairs are allowed by the government as income tax deductions.

An alternative method is to include the repairs cost with the depreciation charge. To set up separate reserves for repairs and depreciation and to draw a clear distinction between the amounts properly chargeable thereto is a difficult matter. The problem is simplified by combining the estimated annual cost of the repairs with the depreciation charge into a combined charge against operation. The method of computing such a composite rate is discussed on page 178.

Conditions under which work is carried on and the character of the buildings differ greatly. Therefore, the peculiar problems of each business should be separately considered and from these should be determined what shall constitute its normal repair policy. When the policy is finally outlined, it should be steadily adhered to until conditions make its revision necessary.

7. Machinery and Equipment

The problem involved in accounting for the machinery and equipment of a plant is that of their depreciation. While the same general principles of depreciation are applicable to all items of equipment, it is apparent that not only will different kinds of machines and machine tools vary in their rate of wear and tear but that similar kinds of machines may also depreciate at different rates if the conditions under which they are operated are dissimilar. Some of the questions involved, such as the probable life of a given piece of equipment operated under certain conditions, are matters belonging more to the province of the engineer than of the accountant. The accountant, however, should know of their existence. Given the necessary engineering data, it falls to him to calculate the correct charge in each case and record on the books the asset values which are gradually consumed in machine operations. The problems involved have been already taken up in Chapters XII and XIII.

Wasting Assets

8. Definition and Treatment

The term "wasting assets" refers to the property of an enterprise which is subject to depletion, such as a mine, a quarry, or an oil well. Such property, instead of depreciating until finally it wears out (to be replaced by a new asset), is gradually depleted until the supply is exhausted, after which it cannot be replaced. The same principles apply to carrying the fixed assets on the books of a "wasting" enterprise as of any other; but if the material resources of the undertaking are expected to give out within a measurable period of time, several considerations modify the usual distinctions that are made between revenue and capital expenditures.

If the enterprise is limited in character, i.e., formed to exploit one piece of property only, it is clear that the conservative policy of maintaining the capital value of the concern at its original amount is not applicable. If a tract of timber land, for example, is expected at the current rate of cutting to be depleted in ten years and the buildings and power machinery are adequate for the needs of its life term, then it would seem unnecessary to charge production with the depreciation and thus the cost of replacing the fixed assets. Under these conditions profits may legitimately be distributed in full without regard to the factors of depreciation and depletion. The assumption in this case is that the larger dividends which accrue to shareholders in consequence of this policy, in part represent the return of their original investment.

If, however, it is intended to carry on the enterprise elsewhere as soon as the material resources of one place are exhausted, then the capital invested should be preserved intact and the dividends distributed should represent only profits.

In this connection it may be noted that the law differentiates between capital subject to ordinary depreciation and that subject to depletion. In the first case the capital of a corporation cannot legally be distributed as dividends by ignoring the factor of depreciation. In the second case it is recognized that some portion of the dividends may represent a part of the original capital of the undertaking.

9. Accounting for Wasting Assets

When the policy of the business is to exhaust its wasting assets with the intention of ultimately winding up the enterprise, no special provision need be made for the depletion of the asset value, and the accounting problem involved is that of liquidation. This matter is discussed in Chapter XXV.

When the enterprise is of a permanent character, it is necessary to accumulate out of profits an amount equal to the original capital investment in the business. This may be accomplished in various ways. The most conservative method is to create a reserve account as described in Chapter VIII, and to charge to current Profit and Loss an amount equal to the depletion. The amount of the depletion charge is proportioned to the estimated shrinkage of the wasting assets.

To illustrate, the purchase price of a tract of timber land and the amount of land exhausted by cutting operations are matters of record. The ratio of the timber cut to the original amount on the land is the per cent of the original purchase price to be charged against operations. If, then, the original asset value of the land is $500,000 and one-tenth of the area is cut annually, the depletion charge would be $50,000 and the journal entry here shown would be required to record it:

Profit and Loss	$50,000.00	
Depletion Reserve		$50,000.00
To charge current operations with the capital depletion.		

The effect of these periodical charges to Profit and Loss is to create a reserve which, at the time of the complete exhaustion of the wasting assets, will be equal to the original capital investment.

Many accountants believe that a reserve under these conditions is unnecessary and misleading. They maintain that the asset account itself should be credited with the depletion.

REVIEW QUESTIONS

1. Give examples of fixed assets.
2. When may appreciation in fixed assets be taken up on the books?
3. What expenses may be added to the book value of land purchased and under what conditions?
4. What expenses may be added to the book value of buildings purchased?
5. Give examples of wasting assets.
6. Differentiate between depreciation and depletion.
7. Give the journal entry to set up depletion in an iron mine.

CHAPTER XVIII

LIABILITIES

1. Definition and Nature

Liabilities may be broadly classified under the three groups of (1) current, (2) fixed, and (3) contingent. Current liabilities consist of (a) the amounts due to trade creditors under notes payable or on open accounts, (b) short-term loans, and (c) accrued expenses to date, such as rent, taxes, wages, etc. The fixed liabilities consist of long-term loans of various kinds, often secured by mortgages on property and equipment. Contingent liabilities comprise all claims against the business which, while not legally enforcible at present, may possibly, though not probably, become enforcible in the future.

The only difference between a fixed and a current liability is that the maturity dates of the fixed liabilities fall much later than those of the current items. Therefore, the fixed items tend to become current as their time of payment draws near.

Fixed liabilities are usually incurred for the purpose of raising capital to be used in extending the market of a business or for additions to its plant and equipment. Capital obtained for such extensions is, as a rule, borrowed upon a promise to pay at a definite future time, with real or personal property mortgaged as collateral security. Such promises may take the form of bonds, real estate mortgages, loans on collateral, or short-term notes. The subject of bonds and bond issues has been taken up in Chapters IX and X and the problems in connection with the accounting for accrued and deferred liabilities in Chapters II and III. Those relating to the remaining kinds of liabilities are discussed in this and the two following chapters. In general, it may be stated that the chief points to consider in accounting for the liabilities are the clearness and fullness of the information given. All such information should be recorded with due regard to future presentation and classification on the balance sheet.

2. Current Liabilities

As the difference between the amounts of the current assets and the current liabilities represents working capital, a comparison of the two sets of figures is always a matter of significance to the creditors of a business or to those from whom a request for credit is made. Therefore, the drawing of a correct distinction between current and fixed liabilities is important. The ordinary commercial practice is to include among the current items all notes, accounts payable, and other obligations which mature within from three months to a year. A retail or wholesale business would generally consider only those obligations current which fall due within a comparatively brief period. A manufacturing concern would look further ahead and rank as current liabilities all items falling due within six months or a year.

Not all notes and accounts payable are current items. Notes given to stockholders or officers of a company, or to banks, or sold through brokers may be properly classified as fixed when there is no particular urgency as to their time of payment; and the same observation applies to amounts due on open account to stockholders or any outside parties holding an interest in a concern.

Before closing the accounts payable ledger at the end of a financial period, the order and receiving books should be inspected so as to insure taking up the liability for all goods received at or before inventory-taking and included therein. Trade discounts, as elsewhere stated, should not appear upon the books of account, as such discounts represent the reduction of fictitious prices to their actual values. As regards the deduction of cash discounts, practice in this respect is not uniform, being governed by the custom in a particular case. Where it is the practice to take advantage of every cash discount, the deduction is usually made upon the invoice and before it is entered. When the cash balance does not permit the taking up of discounts, the liability will, of course, be entered in full.

If open accounts or notes payable carry interest, the amount of the interest due at the date of closing the books, should be taken up, as explained in the discussion of liabilities accrued (Chapter III). Other current liabilities, which are discussed elsewhere in this and the first volume, are consigned goods sold by the consignee, salaries and wages accrued, and dividends declared but not yet paid.

3. Real Estate Mortgages

In the case of most large corporations, the bonds issued for the purpose of obtaining capital consist of a series of numbered bonds secured by one mortgage placed upon the corporation's property for the security of all bondholders. In contrast to this copartnership of interest in one security, is the ordinary "bond and mortgage," the bond being the promise to pay and the mortgage the security for the amount of money borrowed. As the credit rating of small concerns is unknown to the general public, they rarely issue the serial bonds because of the difficulty of marketing them. Instead, the owners of such a business obtain a loan on the concern's single bond with a mortgage on the real estate as collateral, the mortgage being executed in favor of the person or concern loaning the money.

As it is desirable to know the liability due on the mortgage as to both principal and interest at all times, two liability accounts, Mortgage Payable, and Interest on Mortgage Payable, are set up and charged with payments of principal and interest respectively as these are made. The offsetting debit to Interest on Mortgage Payable is to the general expense account Interest, as already explained in the discussion of accruals in Chapter II. When the interest liability is expunged by its payment, the expense has already been taken up on the books.

4. Collateral Loans

Loans which are secured by the deposit of securities or other assets as collateral are recorded in the same way as any other liability, the title of the account signifying that the loan is secured by collateral of some kind. No bookkeeping for the security deposited as collateral is required other than a memorandum entry in the Stock or Bond Investment account, giving the number of the securities and the date and place of deposit. Such securities are still owned by the borrowing concern subject to the discharge of the liability. Securities should be stated as hypothecated on the balance sheet.

If the loan is dishonored at maturity and the securities are sold in satisfaction of the claim, entries are required to show the price realized from them, the repayment of the loan, and the loss or profit on the transaction. If the sale of the securities realizes more than the loan but less than the value at which the securities are carried, the loan is wiped out. Cash account is then charged with the surplus realized on the sale, the investment account is credited with the proceeds of the sale, and the loss on the sale written off to Profit and Loss. If the sale realizes less than the loan, the loss is increased and a liability still remains on the books.

To illustrate, assume that bonds of the face value of $50,000 are hypothecated for $40,000, that the loan is dishonored, and that the sale of the bonds less expenses realizes $45,000. The journal entries required are:

Cash	$40,000.00	
Loan or Advances on Bonds		$40,000.00
To record the liability incurred and the amount received on first mortgage bonds Nos. .... placed as collateral.		
Loan or Advances on Bonds	40,000.00	
Cash	5,000.00	
Profit and Loss on Investment	5,000.00	
First Mortgage Bonds		50,000.00
To record the cancellation of loan by the sale of bonds placed as collateral and the loss thereon.		

If the sale of the collateral security less expenses realizes less than the loan, say $35,000, the loss is proportionately increased, and the entry required to wipe out the liability would be:

Loan or Advances on Bonds	$40,000.00	
Profit or Loss on Investment	15,000.00	
First Mortgage Bonds		$50,000.00
Cash (or Loan Payable)		5,000.00

5. Contingent Liabilities

A contingent liability is a claim or debt for which a business may be held liable if certain things come to pass; or a claim which the business refuses to acknowledge but which may become an actual liability upon legal adjudication. While there is always the possibility that a contingent liability may become an actual liability, the conditions are usually considered to be so remote or uncertain that the taking up on the books of the possible loss as an actual loss is unnecessary.

The contingent liabilities which most commonly develop into actual liabilities are notes receivable discounted, accommodation indorsements, guarantees of various kinds, damage suits or contested claims, and unpaid or partially paid stock held. The liability on the latter would fall upon shareholders owning the stock of a corporation upon its insolvency.

The method of accounting for notes or drafts discounted or sold when they are dishonored is covered in Volume I, Chapter XXVII. The manner of recording other contingent liabilities is illustrated by the method of handling accommodation indorsements explained in the following section.

6. Accommodation Indorsement

An accommodation indorsement represents the acceptance of a note or a bill by one party who receives no value therefor, for the use or benefit of another party. The indorser is liable on the instrument only in case of its protest. Such a contingent liability is usually shown on the books as in the illustrative entry below:

Accommodation Indorsement (contra)	$1,000.00	
Reserve for Indorser's Liability (contra)		$1,000.00

Assuming that the note is dishonored and that its holder recovers its face value together with the protest fee from the indorser, the entries on the latter's books would be:

Reserve for Indorser's Liability	$1,000.00	
Protest Fee	2.50	
Cash		$1,002.50
Profit and Loss	1,000.00	
Accommodation Indorsement		1,000.00

Corporations are usually very chary about lending their names on promissory notes for the accommodation of the makers, and the charter and by-laws of many corporations forbid the practice, as do also many partnership agreements.

7. Other Contingent Liabilities

Other contingent liabilities, such as guarantees of product sold or work performed, possible losses from pending lawsuits, stock not fully paid, and so on, should all be handled in a similar way as above, that is, by showing the liability in a suitable reserve account offset by a suspense expense account. When such liabilities are likely to involve cash payments of any size, as where there is the possibility of an adverse decision and heavy costs in a lawsuit, it is usual to create a fund so that cash may be available for the settlement of the legal charges and claims.

REVIEW QUESTIONS

1. Give three classes of liabilities.
2. When are fixed liabilities usually created?
3. Give ten examples of current liabilities.
4. What accounts are required to show at all times the correct status of loans on real estate?
5. Give the entry required to show the sale of securities previously pledged for a note payable.
6. Describe a contingent liability.
7. Name several contingent liabilities and state how each should appear on a balance sheet.

CHAPTER XIX

INTANGIBLE ASSETS

1. Nature of Intangible Assets

The intangible assets of a business comprise those —such as good-will—which cannot be converted into money except by the sale of the business as a going concern; and those—such as trade secrets and patents—which cannot be bought on the open market. Because of the difficulty of realization, the value of such assets is indeterminate or intangible. Nevertheless, they often constitute some of the most valuable assets of a concern, the loss of which would, as a rule, seriously impair the business prosperity. Enumerated in the order in which they will be taken up here, they comprise:

1. Good-will
2. Trade-marks
3. Patents
4. Trade secrets
5. Copyrights
6. Royalties
7. Franchises

Because the value of this class of assets cannot be so readily determined as that of the fixed and current assets, they are often carried at fictitious and purposely inflated values. The correct method of accounting for the intangible assets is to carry on the books only those which have a real value which is open to verification.

2. Good-Will

Good-will represents the expectation of doing business with, and receiving the established patronage of, a particular community or trade; it is an estimate of the capitalized value of future earnings in excess of the results which might normally be expected when a new business is created. In estimating its value a number of things must be taken into consideration.

The location of a business has sometimes an important bearing on the value of the good-will. A congested corner one year may, through the diversion of traffic caused by the opening of a new railroad, become much less frequented a few years later. In the case of a retail enterprise, such a change might seriously diminish its profits and consequently the value of the good-will.

Again, the members of a firm may be men who are well known and respected by those who do business with them. Because of their lengthy experience in the trade, they may enjoy the patronage that springs from personal liking and reputation. If their business changes hands and it is known that they have severed their connection with it, its earning capacity may be seriously affected. For this reason, when an old-established business is taken over by a new management, the firm name is rarely, if ever, changed, the new proprietor preferring to lose his identity rather than sacrifice the good-will attached to the firm name. Finally, a business may enjoy a flourishing trade and be sold at a favorable price which includes the full value of the good-will. If the former owner of the concern is not restricted in his future business operations, he may enter into competition with the old business and attract much of the good-will which was included in its purchase price.

3. Method of Determination of Good-Will

As in its origin good-will is an asset of a wholly indeterminate nature, it is not considered good accounting practice to set it up on the books until its realizable value has been determined by the sale of a business as a going concern. With one exception, to be discussed later, commercial usage permits the capitalization of good-will only when its value takes tangible form in the price actually paid for it.

There are two well-known methods of determining the value of good-will. One method commonly used is to capitalize the estimated earnings for a certain number of years—in large consolidations the period varies from two to ten years. For example, if a concern showed average net profits of $100,000, an agreement might be reached, on the sale of the business, that the good-will should be sold for a price equal to a three years' purchase of the average net profits. The purchaser could then properly retain this amount on his books as an asset of established value.

Another method is to capitalize that portion of the profits which is in excess of the usual return on money invested in a similar kind of business. In the above example the average net profits are $100,000. Assuming that the company's capitalization amounts to $1,000,000, the average net profits would be 10% on the capitalization. Then, if 6% is taken as the normal profit in the trade, this profit would amount to $60,000, leaving an excess of $40,000 which would be considered as the normal return of the asset good-will. The value placed upon the good-will would therefore be: $\$40{,}000 \div .06 = \$666{,}666.67$.

4. Basis of Valuation of Good-Will

Having determined the number of years' profits upon the basis of which the selling price of the good-will is to be calculated, consideration must next be given to the method of computing the profits. In this connection it is necessary to bear in mind certain important guiding rules which are generally accepted as the correct method of appraisal and as equitable to both parties interested in the valuation. Briefly enumerated, the rules are as follows:

1. All extraordinary profits or losses, not due to the ordinary operation of the business, should be eliminated.
2. Interest paid on borrowed money should not be included.
3. Adequate reserves for depreciation should be provided for.
4. The charges to operating expense on account of repairs should be adequate. Care should be taken to see that the charges to the repair accounts do not show a sudden falling off toward the close of the period under review.
5. Care should be taken to see that no sales effected for a subsequent period are taken up in the accounts of the period under review, with the view of inflating profits. Shipments made to branches or on consignment account should not be regarded as sales.

6. The inventories should be checked over carefully, they should be certified by the persons taking them, and should be valued at cost or market, whichever is the lower; proper allowance should be made for old or obsolete material.
7. Ample provision should be made for all liabilities for expenses incurred during the period under review and outstanding at the close thereof.

5. Good-Will Value of Advertising

The exceptional case previously mentioned in § 3 when good-will may with propriety be set up on the books before its value has been fixed by its sale and purchase, refers to the good-will created by advertising. A large corporation with an established reputation and a product in universal demand usually aims to cover the country with its sales by means of a wide-spread advertising campaign, the appropriation for which may run into seven figures. In such a case there is no expectation of immediately reaping the fruit of the publicity. The object is to create a good name for the product, the effect of which will be noticed in an increasing volume of sales for months and perhaps years to come.

To establish a demand for an unknown product in this way is one of the quickest methods of building up good-will. The trade once acquired, it can, other things being equal, be retained with but a small expenditure on advertising as compared with the cost of securing the business in the first instance. The difference between the cost of retaining the trade and that of building it up may be regarded as good-will, to be set up on the books and written off over a period to be determined by the circumstances of the case. Where the appropriation is handled carefully, and the results derived from advertising are methodically tabulated, the effect of a large advertising expenditure can be clearly followed. It is then considered good accounting practice to bring good-will on the books by crediting advertising expense with its value calculated in the above way, and setting up this amount as an asset which, however, should then be written off as rapidly as possible—within, say, three years. A similar principle is here involved as in other cases where expenditures incurred in part for the benefit of future operations are capitalized and charged off against the profits of the years which benefit therefrom.

6. Depreciation of Good-Will

Accountants of the more conservative school recommend that good-will be depreciated over a term of years by annual charges against profits. Such profits have been paid for or capitalized in advance and, therefore, it is contended they should be used as earned to pay back their purchase price before dividends are paid. While this recommendation is followed by many prudent business men, it is by no means universally adhered to in practice. Good-will account, it is contended, represents earning capacity and has been valued on the basis of the very profits which are to be used to depreciate it. For this reason many accountants contend that there is no logical reason for writing off the asset and that the effect of so doing, assuming that the original prosperity of the business is maintained, is to create a secret reserve. Additional strength is given to this contention by the fact that when profits are more than the average, the good-will is proportionately valuable and a very real asset.

7. Accounting for Good-Will

To sum up the preceding discussion, good-will should be considered as an asset only after it has been acquired and only for its original cost. It should never be treated arbitrarily. It should not represent the expense of building up a business, as it sometimes does, since such expenditures are in no sense an asset but a deferred charge to be written off to future operations. It should be noted that good-will is not permitted as an expense deduction by the government in the computation of income tax. From a credit standpoint, good-will has no value and the account may easily contain losses which a concern wishes to hide from the public. In fact, the Good-will account as found in many balance sheets, is retained for the sole purpose of inflating surplus and thereby concealing a deficit.

Good-will may be set up on the books at the time of the sale of the entire business, or when taking in a new partner, or in cases where excess profits are earned on a small capitalization, or where an unusual amount has been spent in advertising. As the sole purpose of bringing the asset upon the books is to increase the capital, the entry required is a debit to Good-will offset by a like amount credited to Surplus or Capital.

In calculating the amount to be depreciated, the method of computing an annuity is sometimes employed. Good-will is in this case assumed to have a definite life and to represent the value of an annuity which will produce an amount equal to the excess of profits that the business is expected to earn because of an established reputation, superior location, or a monopoly of some kind. Here there are two facts upon which the solution of the problem may be based: (1) definite life of good-will, and (2) amount of excess profits. With these figures as a starting point, the value of an annuity is computed which will extinguish the value of the good-will. At the termination of the life of the good-will the annuity has accumulated an amount equal to the excess profits which were expected to be earned.

It may here be noted that when good-will is purchased as one of the assets of a going concern, the business sold is usually that of a sole proprietor or a partnership, which is to be transformed into a corporation. In such a case it is customary to pay the vendor for the value of the good-will out of the capital stock of the new corporation.

8. Patents

A patent is a governmental grant whereby an inventor or the purchaser of an invention enjoys the exclusive right to make and sell a particular invention for a certain number of years—usually seventeen. As a patent represents a monopoly grant for a limited period of time and certain definite expenditures are made in its development or acquirement, the problem of its handling on the books is simple. Theoretically, all that is required is to spread the full cost of the patent over the years of its monopoly, making the charge to either the cost of the goods produced or to selling expense. Practically, however, the ownership of a patent usually creates a good-will which offsets its depreciation in that by the time the patent rights expire their ownership has built up such a lucrative business that the asset represented by the cost of purchasing or developing the patent in the first instance is replaced by an equally valuable good-will asset. Furthermore, it is rarely the case that a concern's profits are limited to those derived from the original patent. The tendency is for one invention to beget another and the first patent is often so improved or amended under later patents that it takes on a new lease of life.

9. Depreciation on Patents

In estimating the probable depreciation on patents the fact should not be overlooked that the progress of invention may at any time extinguish the value of a lucrative patent right. Its active life will, therefore, often be less than its legal life. Conservative practice in general recommends that the cost of a patent be written off over the period of its expected active life. An alternative method adaptable to some conditions of manufacture is to charge the cost of the patent to the product per unit of production. Whatever the method of depreciation adopted, the charges to revenue on account of the patent should never be greater than its actual cost.

If a patent covers an article the life of which is expected to be of brief duration, such as a novelty which pleases the public fancy for the moment, the cost of the patent should be written off during the first year or two by charging it to the cost of manufacture.

10. Accounting for Patents

In accounting for patents the customary procedure is to capitalize all expenditures connected with the development, acquirement, and retention of the monopoly rights. Often the cost of development includes the expenditures during years of experimental work, much of which may seem for the time being to have been fruitless and therefore to be charged off as a loss. Such would be the correct procedure unless existing patents were carried on the books at a conservative figure, in which case it would seem proper to add to their cost the cost of the experimental work. If there is no existing patent asset, such expenditures could not properly be capitalized.

The method of recording depreciation on patents is the same as that for depreciation on other fixed assets. Depreciation on Patents expense account is charged with the current amount, an offsetting credit being made generally to Depreciation Reserve on Patents account or in some cases directly to the Patent account. In support of the practice of writing off the value of the asset account, it is contended that the life of the patent is a definite term and therefore the value of the asset should be written down so as to correspond with the unexpired period yet to run. On the other hand, where numerous patents are held and it is required for administrative purposes to ascertain the total expenditures to date on any particular patent, this information is more conveniently presented by carrying the offsetting estimation of depreciation in the valuation account. Either of the above methods of showing the value of the patent may be used with equal propriety.

The fact may here be noted that some accountants recommend the merging of the three assets, good-will, trade-marks, and patents, into one capital account, especially when these assets have been included in the valuation of the purchase price of the concern. The three assets are often treated as part of the permanent invested capital of the business—to be retained at its original figure on the books so long as the prosperity of the concern is evenly maintained.

11. Trade-Marks

A trade-mark is a symbol of ownership, such as a distinctive label, imprint, or design used to distinguish a particular brand of product from all other brands. It is used for advertising and selling purposes by printing it on the wrapper or package of a concern's goods as well as by using it on most of the concern's advertising literature. The symbol is intended to guarantee the quality of the goods by affording the consumer a ready means of recognizing the make or brand of the articles offered for sale, and thus a trade-mark represents an effort to give tangible effect to good-will.

When a business carries on a profitable trade which has been built up by maintaining a high standard of quality for which its trade-mark stands, the symbol of this quality has a very real though intangible value. Its actual worth to a business may be difficult to estimate but it is proper to set it up on the books at least at its cost value. As a trade-mark is rarely sold unless the business itself is sold, this cost usually includes that of its design, development, and registration and any expenses which may have been incurred in defending it against the inroads of fraudulent imitators.

12. Trade Secrets

Analogous in some respects to patents are trade secrets. These usually represent a formula or receipt for the ingredients or the method of combining the ingredients used in the manufacture of a special product. Such a formula may be and often is as valuable as a patent, and its ownership, like that of a patent, may carry with it a monopoly in the manufacture of a particular product.

The proper method of handling trade secrets on the books is to capitalize all expenditures incurred in their acquirement or development. As trade secrets are afforded no legal protection and the value of their possession lies largely in the secrecy with which the process of manufacture can be carried on, it is customary to write off the cost of their purchase price, if they have been acquired in this way, as rapidly as is practicable. A trade secret which is merely the fruit of a fortunate discovery has, like good-will, no asset value until it is sold.

13. Copyrights

A copyright is a government grant for the exclusive publication of a certain work of literature, music, or pictorial art. The accounting treatment of copyrights is similar to that of patents, for the reason that they also constitute a monopoly granted for a prescribed and definite period. The term extends over

28 years, with the privilege of renewal for a further 28 years if the application is made one year prior to the termination of the original copyright.

The legal cost of securing a copyright is insignificant, and is usually written off against the first issue of the copyrighted production. The value of a copyright may be large or small depending upon the demand for the work which it protects and the price paid to the author for the right of reproduction. If a copyright invariably retained its original value over the years of its life, all that would be required for its correct accounting would be gradually to charge off this value to the production cost of the copyrighted article. Only a small minority, however, prove of much commercial worth and this worth which at one time may seem considerable may within a few years suffer serious depreciation. The probable demand for works of artistic and educational value is a difficult matter to estimate. Therefore, the values at which the copyrights are carried on the books should be subject to periodic and expert appraisals. The amounts written off the cost of the copyrights and charged to either profits or production costs should be based on this valuation regardless of the length of the term that the copyright still has to run.

14. Royalties

Royalties are payments made for the right of manufacturing a patented article or producing a copyrighted article, or for the right of extracting a raw product from the ground, such as the operation of a mine. The royalty which is paid for the privilege of manufacture or reproduction should be treated as an expense to be charged to the cost of the article produced. A royalty which is paid for the right to exploit a piece of land may under certain conditions be capitalized as an asset. Mines, for example, are frequently leased under terms which stipulate a royalty to be paid on the tonnage extracted, with a minimum charge if the tonnage raised is below a stipulated amount. If the tonnage extracted during the early years of development is less than the stipulated minimum, the royalty paid in excess of actual production may be capitalized to be charged to the cost of production when maximum productive capacity is reached.

15. Franchises

A franchise is a legal contract whereby a state, or one of its divisions, permits a corporation or a public utility company to perform some kind of public service for which purpose it is granted the use of public property. Manifestly, the value of the franchise will be wholly dependent upon the terms of the contract and the length of the monopoly grant. This may be perpetual, as where no time limit is set, or it may be for a definite term of years.

Without considering the terms of the contract or their effect upon its asset value, it may be stated as a general accounting principle that a franchise may be taken up on the books at its full cost. This includes:

1. Legal expenditures.
2. Reimbursements to property owners whose real estate ownings are depreciated by the grant of the franchise.
3. The payments made to the state, county, or other political unit which gives the franchise.

Any payments made yearly or at recurring intervals whereby the cost of the franchise is paid out of operating expenses, should be charged as such.

As the amounts to be written off for the depreciation of the franchise are dependent upon its length and terms, it is impracticable to formulate any definite principles for guidance. As a general rule the granting of the franchise carries with it certain legal requirements as to the amount to be taken out of earnings for the purpose of amortizing the asset. When a company is controlled by a commission, the rulings of that commission must be followed. For example, in New York the rulings of the Public Service Commission prohibit public service companies under its supervision charging to the Franchises account expenses of a legal character or those incurred in securing consent of property owners. Only the amount actually paid to the state or to one of its political subdivisions as consideration for the grant is a proper charge to Franchises account.

REVIEW QUESTIONS

1. Give seven examples of intangible assets.
2. Formulate a definition of good-will.
3. Describe two methods of determining the value of good-will.
4. What is the United States income tax regulation with regard to depreciation of good-will?
5. What is the United States income tax regulation with regard to depreciation of patents?
6. What is a trade-mark? A franchise?
7. What is the New York State Public Service Commission ruling regarding charges to Franchise account?
8. Of what permanent value is a copyright? Give an accountant's opinion.

CHAPTER XX

FIRE LOSS ADJUSTMENTS

1. Nature of Problem

The accounting problems which are apt to arise in connection with the adjustment and settlement of a fire loss relate more to the proof of the extent of the loss to be presented to the insurance company than to the bookkeeping proper. Most of the difficulties which cause delay in making the adjustment are due to the inability of the insured to produce satisfactory evidence of the value of the assets destroyed. The standard policy adopted by most insurance companies requires the production of the original invoices when the entries on the books of account are unsatisfactory. Therefore, if the books have been improperly kept and if the supporting vouchers have been destroyed, the adjustment may be long drawn out and expensive and in any case will be delayed until the insured can procure satisfactory evidence of the amount of the loss.

Such evidence of values would ordinarily be stores and plant subsidiary ledgers supported by (1) controlling accounts on the general ledger, and (2) supporting data of all charges to these accounts as given in a voucher system of account-keeping. Where furniture, fixtures, machinery, and other equipment have been wholly destroyed, the subsidiary plant ledger in which the depreciation charges are recorded is a particularly advantageous record.

2. Fire Insurance Policy

The fire insurance policy is a legal contract whereby the insurance company agrees to pay or replace, in whole or in part, the damage or loss incurred. The precise liability of the company is limited by the terms of the contract and the amount of the policy. The clauses of the policy cover the parties, the property, the risk, amount, term, and premium to be paid. If a quick adjustment is to follow a loss, the policy should state with the utmost clearness and preciseness the particular property to which it applies. Where several buildings are insured for different amounts, or when policies are taken out to cover new equipment as it is purchased, it may be a difficult matter to determine which building or which equipment is covered by a particular policy, especially when machinery or plant has been moved from building to building. These difficulties are likely to arise where the plant of a concern is spread over a large area and is divided into numerous separate buildings. To overcome the difficulty it may be advisable to draw up charts and maps of each building showing the machinery and equipment therein, and to indicate on the insurance policy the particular pieces of property covered by the instrument.

The policy terminates at noon on the last day named therein. If a fire breaks out in the morning of the last day, and even though the greater part of the damage takes place in the afternoon, the loss is still covered by the policy as the fire started before the policy expired. The policy may be canceled immediately by the insured giving notice to the company, in which case the cost of the expired insurance is usually higher than at the rate specified for the full term. More frequently the policy is canceled by the insurance company itself because of neglect on the part of the insured to provide the safeguards stipulated, such as the installation of a sprinkler system, or provision for watching the building. Moreover, either the use of dangerous substances, or concealment or misrepresentation in taking out the policy may be the reason for withdrawal of protection. After the insurance company has given notice of cancellation, five days must elapse before the protection afforded by the policy ceases.

3. Settlement of Losses

When a fire occurs the insured is required to give written notice of it to the insurance company immediately and to do everything in his power to protect the property from further damage in the meantime. Subsequently an inventory must be made out in detail to cover the damage claimed, and the proof of loss must be submitted within sixty days. The claim must give all possible facts and opinions of the insured as to the time and cause of the fire; it must be supported by a sworn affidavit and by specifications of the property destroyed, with the exact location of the various items at the time of their destruction. At the option of the insurance company, the insured may be required to produce books and records and submit to an oral examination under oath so that the validity of the claim may be tested and established.

The determination of values destroyed is not governed by definite procedure and rules. The insurance company in accordance with its usual contract may settle in one of two ways: (1) by paying over the actual cash value of the property destroyed at the time of the fire, or (2) by paying over the amount which it would cost to replace the property. The governing price usually is cost price, with heavy allowance for depreciation.

If the parties cannot agree as to the value involved, the insurer or the insured may each appoint an appraiser who selects a third person called an umpire. The appraisers, after determining the damage caused and the value of the loss, usually submit a written report which is held as binding upon both parties. The umpire is only called upon to decide matters about which the appraisers cannot agree.

After the amount of the loss has been settled, by agreement or by appraisal, the insurance company's liability thereunder is determined. Unless the property is insured to its full value (which for reasons to be explained presently is rarely the case), the clauses of the contract may limit or qualify the liability of the company in various ways. Little attention as a rule is given to the bearing of these clauses on the contract. The "coinsurance" clause is one of the most common and important of these clauses.

4. Coinsurance Clause

Coinsurance, or the average clause, as it is sometimes called, is one of the most important features in connection with fire insurance. In the case of insurance covering property, all losses should be based on indemnity only, and to insure equity in making the rate the factor of coinsurance must be considered.

While commonly called coinsurance, the word is rather misleading, but having become part of the common speech, it probably will not be displaced. A coinsurer would imply one who insures something with another, that is, assumes part of the risk of insurance; whereas the phrase, as commonly used, means that the insurer has agreed to carry insurance to a certain amount of the value of the property, and failing to carry that amount he loses a certain percentage of the amount for which he is insured. Therefore, when the insured fails to carry a sufficient amount of insurance he becomes a coinsurer because he really insures himself for a part of the amount.

As an example, if a piece of property worth $10,000 is insured under the 80% coinsurance clause, the insurance required is $8,000 in amount. If the insured only carries $6,000 and a loss occurs, three-fourths of the loss only will be paid because the actual insurance carried ($6,000) is only three-fourths of the amount that should be carried under the coinsurance clause ($8,000).

An actual case was of a property worth $2,000,000 insured for $400,000. A fire occurred and the loss was $26,000. The policy carried the 80% coinsurance clause. 80% of $2,000,000 is $1,600,000, hence the insurance carried was one-fourth of what should have been carried and the loss paid was one-fourth of $26,000, or $6,500.

5. Object of Coinsurance Clause

The object of the coinsurance clause is to make the premium to be paid proportionate as much to the value of the property as to the risk involved. Few fire losses are total; the great majority are only partial losses. In a well-constructed building in which few if any combustible materials are handled and which is properly protected by suitable precautions, a fire may never be able to spread to the extent of causing more than 20% to 50% of damage to the value of its contents, while the building itself may be practically fire-proof.

If property worth $2,000,000 is insured for only $200,000 because this is the extent of any likely loss, and similar property of like value where mortgage loans have to be protected is forced to insure for 80% or $1,600,000, it can readily be seen that without the principle of coinsurance there would be no way of establishing an equitable relationship among different insurers.

As one of the primary objects of insurance is to equalize the rate of insurance on similar classes of property, the principle of a fixed relation between the property insured and its value must be made part of the policy. There is no special magic about 80% or 75% coinsurance. Policies are required by a mortgagee or required by the banks when loaning money on real estate collateral, and the insurance demanded in such cases is always sufficient to cover every possible chance of loss. 80% represents this unless the risk is exceptional, in which case full insurance is demanded and the full loss is paid.

6. Apportionment of Liability and a Coinsurance Clause

Insurance above a certain amount or of more than average risk is invariably distributed over two or more companies, the companies themselves often deciding upon the method of distribution. When the risk is so distributed, the question arises as to the amount each company shall be called upon to pay under the terms of the coinsurance clause. To illustrate the method of solving the problem, assume that the value of the property is \$100,000, the loss \$40,000, and that three policies have been taken out as follows:

Company A	\$20,000
Company B	25,000
Company C	30,000

The liability of each company is determined by dividing the amount covered by its policy by 80% of the total value of the property, then multiplying the result by the amount of the loss. The calculations follow:

$$\text{Company A} \quad \frac{20{,}000}{80\% \text{ of } 100{,}000} \text{ of } \$40{,}000 = \$10{,}000$$

$$\text{Company B} \quad \frac{25{,}000}{80\% \text{ of } 100{,}000} \text{ of } \$40{,}000 = \$12{,}500$$

$$\text{Company C} \quad \frac{30{,}000}{80\% \text{ of } 100{,}000} \text{ of } \$40{,}000 = \$15{,}000$$

The loss to the insured on account of the operation of the 80% coinsurance clause is shown below:

Apportionment	Insurance	Loss	Company Pays
Company A	\$20,000.00	\$10,666.70	\$10,000.00
Company B	25,000.00	13,333.30	12,500.00
Company C	30,000.00	16,000.00	15.000.00
	\$75,000.00	\$40,000.00	\$37,500.00
Loss to insured on account of operation of 80% coinsurance clause			2,500.00
			\$40,000.00

7. Inventory Valuation

When the stock of merchandise is destroyed and perpetual inventory records are not available to compute its value, the value is usually determined by taking the sales total since the last inventory and deducting therefrom the average gross profit of one or more preceding years or fiscal periods. The procedure, the source of the figures, and the method of presentation are explained in the following statements:

ASCERTAINMENT OF PROFIT RATIO

Inventory, January 1, 1919	$ 20,000.00
Purchases, January 1, 1919, to January 1, 1920	120,000.00
	$140,000.00
Inventory, January 1, 1920	25,000.00
Balance = cost of merchandise sold during year	$115,000.00
Sales per Sales Book	$138,000.00
Cost as above	115,000.00
Gross Profits	$ 23,000.00

= 20% of Cost Value of $115,000 or 16⅔% of Sales Value of $138,000.

ASCERTAINMENT OF STOCK ON HAND

Date of Fire April 1, 1920

Inventory, January 1, 1920 (as above)	$25,000.00
Purchases, per books January 1 to April 1, 1920	35,000.00
	$60,000.00

Sales, per books January 1 to April 1, 1920	$40,000.00	
Less—$16\frac{2}{3}\%$ Profits, as estimated above	6,666.67	
Cost of Goods Sold		33,333.33
Net Value Stock on Hand, April 1, 1920		$26,666.67

8. Accounting for Fire Loss

The entries required to record the fire loss and adjust the asset values on the books are comparatively simple. A special asset account called "Fire Loss" or "Fire Adjustment" is set up on the ledger and charged with the extent of the damage. Offsetting credits are made to the asset accounts affected by the fire. An illustrative journal entry is:

Fire Loss Adjustment	$40,000.00	
Machinery		$ 5,000.00
Raw Materials		10,000.00
Manufactured Goods		25,000.00
To record the amount of loss due to fire and collectible from the Blank Insurance Company when the loss is proved.		

When the loss is adjusted and payment is made, the entry, assuming that the liability of the company is found to be three-quarters of the above loss, would be:

Cash	$30,000.00	
Surplus	10,000.00	
Fire Loss Adjustment		$40,000.00
To record the receipt of the insurance claim and loss incurred by the fire.		

The loss is charged to Surplus so that the current profit and loss figures are not affected thereby.

9. Depreciation Factor

The factor of depreciation often complicates both the adjustment and the bookkeeping entries required to record the loss. The company is only liable for the depreciated value of the fixed assets, and if adequate records are not available to show the shrinkage in value or if such values as are shown on the books are less than the actual values destroyed, the appraisers generally fail to agree and the matter is submitted to the umpire. To illustrate the accounting requirements where depreciation records are not available and the values placed upon the assets destroyed have to be taken from incomplete data, assume the following facts:

A fire destroyed the store and stock of a retail business. When the safe was opened the books revealed the following facts concerning the merchandise: purchases amounted to \$90,000; sales amounted to \$110,000; furniture and fixtures were entered upon the records at \$7,500; and the store building was carried at \$35,000. The average gross profit agreed to by the adjusters was 40% of sales. The insurance companies agreed to pay 75% of the book value of the furniture and fixtures, 90% of the value of the store building, and the entire loss on the merchandise stock. The journal entries follow:

Inventory (new)	\$24,000.00	
Merchandise Purchases		\$24,000.00
To record the value of the inventory at the time of the fire as follows:		

Purchases		$90,000
Sales	$110,000	
Cost of sales (60%)	66,000	66,000
Inventory		$24,000

Fire Loss	24,000.00	
Inventory (new)		24,000.00
To charge insurance company with complete loss of inventory of goods on hand, which loss company will pay in full.		
Fire Loss	5,625.00	
Surplus	1,875.00	
Furniture and Fixtures		7,500.00
To close out the loss on furniture and fixtures, 75% to be recovered and the balance charged against Surplus.		
Fire Loss	31,500.00	
Surplus	3,500.00	
Store Building		35,000.00
To close out the loss on store building—90% to be recovered and the balance charged against Surplus.		

The posting of the above entries to Fire Loss account sets up a claim against the insurance company for $61,-125, as below:

Fire Loss

1919 Merchandise Inventory (new)	$24,000.00	
Furniture and Fixtures (75%)	5,625.00	
Store Building (90%)	31,500.00	

When the claim is paid, the above account is closed, the offsetting debit being to Cash for the amount received. The two debits to Surplus (\$1,875 + \$3,500) represent the capital loss caused by the fire.

REVIEW QUESTIONS

1. What is usually considered good evidence of the value of property destroyed by fire?
2. How are fire insurance disputes regarding the value of property usually settled?
3. Describe coinsurance.
4. How is the liability of each insurance company determined when the risk is distributed?
5. Indicate by example how profit ratio is ascertained.
6. Give the entry required to show the recovery from the insurance company for 80% of the value of property destroyed by fire.

Part IV

Financial Statements—Form and Arrangement

CHAPTER XXI

THE BALANCE SHEET

1. Definition

A balance sheet is a statement showing the financial condition of a business at a specific date, viz., its assets and liabilities, the capital employed, as well as any reserves, surplus, or deficiency there may be. A statement of assets and liabilities would contain the same elements as a balance sheet, but an attempt has been made to restrict the use of the term "balance sheet" to such a statement made up from facts recorded in double-entry books of account, and to use the term "statement of assets and liabilities" in connection with a statement of such facts made up from other sources.

2. Importance of Balance Sheet

Of all statements the balance sheet is the most important as a means of presenting the financial condition of a business not only to the proprietors but also to outsiders who for various reasons are interested in its financial status. If the business is that of a corporation, every stockholder is entitled to receive a copy of the balance sheet so drawn up as to make its reading intelligible to the layman. Every applicant for a bank loan or other credit must prove his right to the loan and must show cause why he deserves it. A balance sheet, supported by a profit and loss statement when necessary, is the modern accounting means to this end.

3. Form of Balance Sheet

A balance sheet is not an account, nor is it the statement of an account. It is simply a statement of assets, liabilities, and net worth arranged in whatever form best suits the purpose in view. When arranged in statement form, with the assets appearing first followed by the liabilities and net worth, it is called the report form. When arranged with the assets on the left side and the liabilities and net worth on the right side, it is called the account form. A balance sheet, therefore, cannot be said to have either a debit or a credit side. This flexibility has led to the showing on most English balance sheets of the liabilities and net worth on the left side and the assets on the right side. The American practice, which is the reverse of the English method and which in some respects seems the more logical method of presentation, is based on the practice of the continent of Europe. It is profitless to discuss the origin of the difference in methods and their respective merits. Opinions vary concerning the matter and no satisfactory reason can be advanced as to why one method is to be preferred to the other. So long as the balance sheet presents the assets, liabilities, and net worth in a form which gives the information required for a particular purpose, it fulfils its mission.

The question as to form thus reduces itself to the respective merits of the report or statement form or the account form. As a general rule, to which exceptions may be made, it may be stated that when the number of items are few, it is advisable to use the statement form; whereas, when the items are numerous it is unquestionably better to present them in account form. The information presented on the balance sheet is then much easier to read, as liabilities can more readily be compared with assets and conclusions drawn therefrom.

4. Arrangement of Content—Assets

In considering the arrangement of the groups of items on the balance sheet, much depends upon the purpose it is to serve. One of the most common purposes, as already indicated, is the submission of a balance sheet as a basis for a request for credit. When, for example, the compilation is to be submitted to a credit man, a financial rating concern, or a bank cashier, the liquid or current assets are usually of more interest than the fixed assets and therefore the current assets should appear first on the left side, offset by the current liabilities on the right side. A credit man would ordinarily disregard the fixed assets in arriving at his conclusions regarding an application for credit. He would examine, however, the amounts of all current assets and current liabilities and also the difference between their total amounts in order to ascertain the working capital available for the satisfaction of creditor's claims.

The listing of the fixed assets first is to be preferred only when the chief interest in the balance sheet is centered in the amount of the capital invested in properties and the growth of such investment. Such would usually be the case with railways, steel corporations, and other concerns where the ratio of the fixed assets to the floating assets is large and where the stability and magnitude of the enterprise is in itself a guarantee of its credit rating. In the majority of cases, however, chief interest centers in the liquidity of the assets of a concern. The ability to pay dividends, to extend the sales market by carrying large stocks of merchandise, and the possession of sufficient liquid assets to meet all credit obligations without impairing working capital—these are the points of chief interest to the majority of outsiders. For these reasons the current assets usually appear at the head of the statement.

It should be understood, however, that the question as to whether the fixed assets shall be shown first followed by the current, or whether the current shall head the list followed by the fixed is not particularly important. The important point is to adopt one plan and follow it consistently for both assets and liabilities.

When current items are stated first, the assets should be listed in four main groups as follows:

1. Current assets in the order of their availability to a going business.
2. Tangible fixed assets in the order of their money values, the largest amounts appearing first.
3. Intangible assets in the order of their amounts.
4. Deferred charges in the order of their amounts.

5. Arrangement of Liabilities

The general arrangement of the liability items may be stated as follows:

1. Current liabilities in the order of their liquidation, with the most pressing items first.
2. Fixed liabilities according to importance and amount, or in the order of their permanency.
3. Deferred credits in the order of their amounts.
4. Net worth in proper detail.

6. Capital

Capital, consisting of proprietorship, or capital stock plus surplus, represents the investment in the business, or the excess of assets over liabilities. The business, partnership or corporation, does not owe this amount in the same sense that it clearly owes creditors for liabilities. The proprietors or stockholders own the business and therefore the business cannot be said to owe them for their investment. Capital is not a liability but an accountability. For balance sheet purposes, however, the capital is usually shown following the liabilities so that their combined total may equal the total of the assets. Thus have been evolved the titles of "Liabilities and Capital" and "Liabilities, Capital Stock, and Net Worth," as applying to the section of the balance sheet where the capital and liabilities are shown. In the case of a corporation, the capital will consist of the outstanding capital stock plus the Surplus or minus the Deficit. Capital stock may consist of preferred stock and common stock and subdivisions of each class, and the outstanding amount may not absorb the entire authorized capital. All of these facts should be stated clearly on the balance sheet. Usually the authorized amount is shown; then a deduction is made for the unissued stock and the outstanding amount is extended as a net item entering into the total of that side of the balance sheet.

7. Showing of Deficit

If a deficit exists, that is, if the aggregate of liabilities and capital stock is greater than the total assets, then to the extent of the excess there is an impairment of capital. It follows, logically, that the amount of the deficit may be shown as a deduction from the amount of the capital stock on the balance sheet and, for emphasis, the deficit may be stated in red ink. The above method of showing a deficit will permit of a balance; that is, the liabilities plus the capital stock less the deficit will equal the total assets. Some accountants show the deficit on the "asset side" of the balance sheet to permit of a balancing to an equal total but, as indicated above, the result can be accomplished under the plan suggested here and a more logical statement is presented. Deficit is never entitled to a place among assets. If the deficit is larger in amount than the capital stock, the excess of liabilities over assets should still be shown in red ink as a deduction on the "liability side" of the balance sheet.

8. Showing of Reserves

All reserves for depreciation or extinguishment of fixed assets and all reserves covering the shrinkage in value of current assets are, as already explained, valuation accounts and should preferably be shown on the balance sheet as deductions from their correlative assets. Such reserves are not liabilities, nor are they part of surplus. Their creation is necessary to show the true amount of the assets to which they apply and which should be reduced accordingly.

The reserves which are not set aside to meet shrinkages in asset values but which eventually revert to surplus have been considered in Chapter VII. These reserves should be stated as a separate section of surplus.

9. Condensation of Items

As the primary reason for a balance sheet is to exhibit assets and liabilities under groups and headings which summarize the information obtained from the books of account, the question arises as to how far the condensation may be properly carried. This depends largely upon the use to which the balance sheet is to be put. The objects in all cases are truth and clarity. Detailed information which may be necessary for the guidance of the management of the business or for internal use may be meaningless and confusing to outsiders. Therefore, the information on a balance sheet to be submitted to stockholders and the public may well be condensed under a few main headings the meaning of which is clear to most business men.

Condensation, however, may be made a convenient method of misrepresenting facts by their concealment; for this there is, of course, no justification. As a general rule the fewer the number of groups and the items within a group, consistent with truthful statement, the better. When the balance sheet is condensed in this way and additional information as to assets or liabilities is required for internal use, this information can best be rendered by means of supporting statements and schedules. Examples are given in a following chapter.

10. Illustrative Form of Balance Sheet

A skeleton form of balance sheet as discussed in the preceding section is presented below. The form represents the limit to which condensation should usually be carried. Any one or all the groups may be supported by schedules when these are desirable for internal use or for the information of persons interested in the detail of a particular group.

CONDENSED FORM OF BALANCE SHEET

Assets

Current Assets:				
Cash			$......	
Notes Receivable		$......		
Accounts Receivable		......		
Total		$......		
Less—Reserve for Bad Debts		......	......	
Inventories:				
Raw Material		$......		
Goods in Process		......		
Finished Goods		......	......	
Total Current Assets				$......
Fixed Assets:				
Investments			$......	
Plant and Equipment:				
Land		$......		
Buildings	$......			
Machinery	......			
Tools and Equipment	......			
Furniture and Fixtures	......			
Total	$......			
Less—Reserve for Depreciation	......	......	......	
Patents			......	
Good-Will			......	
Total Fixed Assets				......
Deferred Charges:				
Unexpired Insurance			$......	
Prepaid Interest			......	
Total Deferred Charges				......
				$......

Liabilities and Capital

Current Liabilities:			
Notes Payable		$......	
Accounts Payable		......	
Accrued Expenses		......	
Total Current Liabilities			$......
Fixed Liabilities:			
Mortgages Payable		$......	
Bonds		......	
Long-Term Notes Payable		......	
Total Fixed Liabilities			......
Deferred Credits:			
Unearned Income			......
Total Liabilities			$......
Capital:			
Preferred Stock:			
Authorized	$......		
Unissued	......		
Outstanding		$......	
Common Stock:			
Authorized	$......		
Unissued	......		
Outstanding		$......	
Surplus:			
Reserves	$......		
Free Surplus	......	......	
Total Capital			......
			$......

The Federal Reserve Board recommends the following—an excellent example of the account form, containing headings which give complete information and show some details of interest usually omitted.

FEDERAL RESERVE BOARD

Assets

Cash:			
1a. Cash on hand—currency and coin		$......	
1b. Cash in bank		......	$......
Notes and Accounts Receivable:			
3. Notes receivable of customers on hand (not past due)		$......	
5. Notes receivable discounted or sold with indorsement or guaranty		......	
7. Accounts receivable, customers (not past due)		......	
9. Notes receivable, customers, past due (cash value $....)		......	
11. Accounts receivable, customers, past due (cash value $....)		......	
Less:			
13. Provisions for bad debts	$......	$......	
15. Provisions for discounts, freights, allow's.	......	......	......
Inventories:			
17. Raw material on hand		$......	
19. Goods in process		......	
21. Uncompleted contracts	$......		
Less—Payments on account thereof	......	......	
23. Finished goods on hand		......	......
Other Quick Assets (describe fully)			......
Total Quick Assets (excluding all investments)			$......
Securities:			
25. Securities readily marketable and salable without impairing the business		$......	
27. Notes given by officers, stockholders, or employees		......	
29. Accounts due from officers, stockholders, or employees		......	......
Total Current Assets			$......
Fixed Assets:			
31. Land used for plant		$......	
33. Buildings used for plant		......	
35. Machinery		......	
37. Tools and plant equipment		......	
39. Patterns and drawings		......	
41. Office furniture and fixtures		......	
43. Other fixed assets, if any (describe fully)		......	
Less:		$......	
45. Reserves for depreciation		......	
Total Fixed Assets			......
Deferred Charges:			
47. Prepaid expenses, interest, insurance, taxes, etc.			......
Other Assets (49)			......
Total Assets			$......

FORM OF BALANCE SHEET

Liabilities

Bills, Notes, and Accounts Payable:			
Unsecured Bills and Notes:			
2. Acceptances made for merchandise or raw material purchased		$......	
4. Notes given for merchandise or raw material purch.		......	
6. Notes given to banks for money borrowed		......	
8. Notes sold through brokers		......	
10. Notes given for machinery, additions to plant, etc.		......	
12. Notes due to stockholders, officers, or employees		......	$......
Unsecured Accounts:			
14. Accounts payable for purchases (not yet due)		$......	
16. Accounts payable for purchases (past due)		......	
18. Accounts payable to stockholders, officers, or employees		......	......
Secured Liabilities:			
20a. Notes receivable discounted or sold with indorsement or guaranty (contra)		$......	
20b. Customers' accounts discounted or assigned (contra)		......	
20c. Obligations secured by liens on inventories		......	
20d. Obligations secured by securities deposited as collateral		......	......
22. Accrued liabilities (interest, taxes, wages, etc.)			......
Other Current Liabilities (describe fully)			......
Total Current Liabilities			$......
Fixed Liabilities:			
24. Mortgage on plant (due date)		$......	
26. Mortgage on other real estate (due date)		......	
28. Chattel mortgage on machinery or equipment (due date)		......	
30. Bonded debt (due date)		......	......
32. Other fixed liabilities (describe fully)			......
Total Liabilities			$......
Net Worth:			
34. If a corporation—			
(a) Preferred stock (less stock in treasury)		$......	
(b) Common stock (less stock in treasury)		......	
(c) Surplus and undivided profits		......	
		$......	
Less:			
(d) Book value of good-will	$......		
(e) Deficit	......	......	......
Total			$......
36. If an individual or partnership—			
(a) Capital		$......	
(b) Undistributed profits or deficit		......	......
Total			$......

11. Comparative Balance Sheets

In the writer's opinion a balance sheet has not fully served its purpose unless it shows a comparison, item for item, with the last preceding balance sheet. Thus, a balance sheet as of December 31, 1919, should be compared with one as of December 31, 1918. Many accountants invariably present balance sheets in comparative form for three years. In large corporations where monthly balance sheets are issued to the executives, it is very often the practice to show the amounts for each item at the various dates in columns from left to right as follows:

1. Amounts at end of month for period under review.
2. Amounts at end of previous month.
3. Amounts at end of month one year previous to month in first column.

The form is sometimes varied to include a balance sheet as at the first of the current year or a column indicating increases and decreases in each item from the end of the previous month or since the first of the year. Any of the above variations will produce an effective statement which will be acceptable to most executives, especially if it is accompanied by a comparative earning statement.

12. Special Points

Contingent liabilities for notes receivable discounted may be disclosed on a balance sheet in the form of a foot-note or as offsetting contra entries. The form is not important but it is important that information regarding contingent liabilities should not be omitted from the balance sheet.

Another item often erroneously omitted from balance sheets is the accountability for unpaid cumulative dividends on preferred stock. These dividends do not constitute a liability until declared by the directors, but the fact that they must be paid before any dividend on the common stock is often of paramount importance, especially to common stockholders.

Credit balances in the accounts receivable ledgers should be shown on a balance sheet under accounts payable and, conversely, debit balances in the accounts payable ledgers should be indicated as accounts receivable, but the items should be properly described to differentiate them from other accounts usually liquidated in cash. The above rule needs no explanation but the error is often made of showing the net balances of the ledgers as the total of accounts receivable and accounts payable, in spite of the fact that such opposing balances in the accounts of customers and creditors usually indicate allowances and claims which are to be settled in merchandise or be applied against future transactions.

Accounts and notes due from, or payable to, proprietors or corporation officials should always be stated as separate and distinct items on the balance sheet and should never be merged with other accounts and notes receivable or payable. In many cases such an item is merely a different form of capital investment although it may not be so treated. The reader of the balance sheet should have the benefit of that information for obvious reasons.

13. Tie-Up Between Balance Sheet and Income Statement

A definite reference from the balance sheet to the income statement or vice versa is absolutely essential. This reference is usually provided through the transfer of net profits from the income statement to the Surplus account on the balance sheet, but it may also be accomplished by adding the surplus at the beginning of the period to the net profits on the income statement and thus establishing on the income statement the total of the Surplus account as stated on the balance sheet. In the first case the Surplus account on the balance sheet would appear as follows:

Balance of Surplus at beginning of year	$......	
Add—Net Profits per Income Statement	......	
Total Surplus—Balance at end of year		$......

The last line on the income statement would then be labeled "Net Profits for year (carried to Balance Sheet)."

In the case of showing the tie-up on the income statement, the surplus on the balance sheet would be stated as "Surplus per Income Statement," while the foot of the income statement would show the following:

Net Profits for year	$......	
Add—Balance of Surplus at beginning of year	......	
Total Surplus at end of year (carried to Balance Sheet)		$......

This reference from one statement to the other which we call "tie-up" should not be omitted as it indicates completeness, is in accordance with the book entries transferring the balance of net profits to the Surplus account, and establishes a direct connection between the balance sheet and income statement.

Reference to Volume V of " Business Accounting" will give the reader several examples of balance sheets and profit and loss statements which have been arranged to show their mutual dependence. Obviously all changes in surplus due to dividends and adjustments applicable to previous years must be indicated in addition to that caused by the current profit or loss. When a balance sheet is intended for general distribution and it is not desired to reveal the operating result for the current year, the "tie-up" should be shown on the profit and loss statement, not the balance sheet.

REVIEW QUESTIONS

1. When should fixed assets appear first among the assets on a balance sheet?
2. What method of listing assets and liabilities on a balance sheet is usually preferred by a bank?
3. What is the general rule regarding the showing of reserves on a balance sheet?
4. What items on a corporate balance sheet show its capital (in the accounting sense of "capital")? What items show its economic capital? (Refer to Volume I, Chapter III.)
5. How may a deficit be shown on a corporate balance sheet?
6. How, if at all, should a possible judgment against the business in pending litigation be indicated on a balance sheet? What kind of liability is it?
7. What useful purposes are served by comparative balance sheets?
8. What relation is there between the profit or loss on an income statement and the surplus shown on a corporate balance sheet?

CHAPTER XXII

PROFIT AND LOSS STATEMENT

1. Definition and Purpose

A profit and loss statement is a logically arranged analysis of the net profit resulting from the carrying on of a business for a given period of time.

As the purpose of the profit and loss statement is to supplement the balance sheet, the two statements should always be rendered when it is desired to make a full and comprehensive report of the result of financial operations, showing not only the profit or loss of a given period of time but also the source or activities to which such profit or loss is due. This purpose is effected by drawing up the two statements in such a way as to set forth:

1. The profit or loss resulting from operations, i.e., the increase or decrease of the working capital used in manufacturing and selling or in buying and selling goods or in selling service.
2. The expense of operation, i.e., the amount by which the capital is decreased or given up in exchange for such services as the business requires.
3. Capital expenses, i.e., deductions from income and profit which are not part of the regular expense of operation.

4. Profit and loss charges and credits, i.e., losses or gains of capital made during an accounting period otherwise than through regular operations—for example, the sale of a fixed asset for more or less than its book value, or the depreciation or appreciation of investments which are held for other than trading purposes.
5. Surplus or capital adjustments made necessary by the operations of former periods.

The accounting treatment of item 4 in the above tabulation has been discussed in Chapter XVII, and item 5 in Chapter VII. The remaining items need brief consideration so far as concerns their make-up on the profit and loss statement.

2. Profit or Loss Resulting from Operations

The profit or loss resulting from operations constitutes the gross profit or loss. The figures are obtained by deducting from the net sales the cost of the goods sold. In a mercantile business the cost of the goods sold will be the net purchase price of the merchandise plus freight, delivery, insurance, and carrying charges. These items are usually shown on the statement. In the case of a manufacturing business the cost of the goods sold is their cost of manufacture plus carrying charges. If it is required to show the elements of manufacturing cost in detail, the information may be presented on a separate schedule headed "Cost of Goods Sold—Manufacturing Section."

To take advantage of discounts on purchases, some businesses must borrow money, while other businesses in the same line have sufficient money of their own. Likewise, the amount of discounts on sales depends upon the policies of the business management, the need for money, and the class of trade served. The discount allowed to customers is sometimes much larger than usual, because the business requires the money for a working fund, especially if it cannot borrow enough from banks. To arrive at results from regular operations on a consistent basis, the items of interest and discount must, therefore, be shown on the profit and loss statement after the net profits from the regular conduct of the business have been reached.

3. Expenses of Operation

This class of expenses includes all those which have to do with the regular operations of the business, which apply strictly to the current fiscal period, and which are common to concerns in that line, regardless of their financial condition; e.g., all selling expenses, delivery expenses, general administrative expenses, depreciation when a periodical charge is made for that purpose, etc. The difference between the gross profit from the regular sources of revenue, and the operating expenses, is the earning capacity of a business, and should be known as the "net profit from operations."

4. Capital Expenses

This class of expenses comprehends all which have to do directly with the securing of available cash funds; e.g., interest on borrowed moneys whether on bonds or notes, interest on overdue accounts payable, and discounts allowed to customers for paying their bills on or before a certain date. Any moneys received on deposits, notes receivable, or overdue accounts receivable are offsets to the interest paid and discounts allowed. The net result of interest and discount items may be a debit or a credit balance, depending very largely upon the financial condition of the business, its requirements for ready cash, the cleverness of the financial management, and the class of trade dealt with.

Loss on bad accounts must also be included with capital expenses. With most businesses this loss is a recurring item which must be taken into consideration before the net profit can be truly shown for a given period. It varies from year to year, such variations depending largely on the class of trade, eagerness to sell, the ability of the credit man, and on other conditions which cannot be foreseen.

When a profit and loss statement is compiled, the prospective loss on bad accounts during the subsequent month or fiscal period, as the case may be, should be estimated and shown underneath the items of interest and discount. To arrive at the net profit for the period if the net result of the interest and discounts is a debit, the estimated loss on bad accounts should be added to it and the sum of the two amounts deducted from the net profit from operations; if the net balance of the interest and discount items is a credit, then the difference between that credit and the loss on bad accounts should be added to or deducted from the net profit on operations, as the case may be. Extraneous items of income and expense may also be shown on the profit and loss statement as additions to, and deductions from, the net profit on operations.

5. Form of Presentation

The profit and loss statement, like the balance sheet, may be presented in either the account form or the report (statement) form. Of the two methods, the one most commonly employed is the report or running form because in this way the final figure at the bottom of the statement shows the net profit very clearly. The method of presentation previously described relates to the statement form. When the account form is used, the sales or main items of income are placed on the one side, and the direct costs of the items of income in the same order on the other side. The balance of the two sides is then brought down as gross profit or loss. Against this are set up the groups of selling and administrative expenses. The difference between the two sides is again brought down and constitutes the net operating profit or loss, to which are added other items of income. After the expenses of financing the business are set up against the net operating profit, the balance remaining represents the net profit available for distribution or the net loss. The amounts declared as dividends or carried to reserves or surplus are then shown opposite the net profit, in this way balancing the two sides of the statement.

6. Illustrative Form of Statement

The skeleton form of presentation given below is the one suggested by A. Lowes Dickinson in "Accounting Practice and Procedure." It should be understood that the form of presentation and method of showing the profit and loss items may be varied to suit the use to which the statement is to be put and the information it is desired to set forth. An agency or commission business, a bank or transportation company would show in the upper part of the statement its earnings from operations—instead of from sales—from which earnings the expenses of management would be deducted to determine the net profit from operations. From this point onward the form for all profit and loss statements would be practically the same.

MANUFACTURING AND MERCHANDISING FORM OF PROFIT AND LOSS STATEMENT

Gross Sales		$......	
Less—Returns, Allowances, and Discount		......	
Net Earnings from Sales			$......
Deduct—Cost of Goods Sold			......
Gross Profit			$......
Deduct:			
Cost of Selling		$......	
Administrative Expense		......	......
Net Profit from Operations			$......
Other Income		$......	
Deduct:			
Interest on Bonds	$......		
Other Fixed Charges	......	......	......
Surplus for year			$......
Extraordinary Profits (Detailed)			......
Surplus brought forward from preceding year			......
			$......
Deduct—Extraordinary Charges			......
Total Surplus Available			$......
Dividends on Stocks			......
Surplus carried forward			$......

7. Federal Reserve Board Form

The committee of the Federal Reserve Board, in the interest of uniformity in accounting, has drawn up a skeleton profit and loss statement form for the use of manufacturers and merchants, with the suggestion that such a statement should cover the operations of the past three years. This form gives a little more detail than the one presented above but in principle the method of showing is the same. The form is reproduced herewith.

FEDERAL RESERVE BOARD FORM OF COMPARATIVE STATEMENT OF PROFIT AND LOSS

	Year Ended 19–	Year Ended 19–	Year Ended 19–
Gross Sales	$......	$......	$......
Less—Outward Freight, Allowances, and Returns	......	......	......
Net Sales	$......	$......	$......
Inventory beginning of year	$......	$......	$......
Purchases, Net	......	......	......
	$......	$......	$......
Less—Inventory end of year	......	......	......
Cost of Sales	$......	$......	$......
Gross Profit on Sales	$......	$......	$......
Selling Expenses (itemized to correspond with ledger accounts kept)	$......	$......	$......
Total Selling Expense	$......	$......	$......
General Expenses (itemized to correspond with ledger accounts kept)	$......	$......	$......
Total General Expense	$......	$......	$......

Administrative Expenses (itemized to correspond with ledger accounts kept)	$......	$......	$......
Total Administrative Expense	$......	$......	$......
Total Expense	$......	$......	$......
Net Profit on Sales	$......	$......	$......
Other Income:			
Income from Investments	$......	$......	$......
Interest on Notes Receivable, etc.	......	......	......
Total Other Income	$......	$......	$......
Gross Income	$......	$......	$......
Deductions from Income:			
Interest on Bonded Debt	$......	$......	$......
Interest on Notes Payable	......	......	......
Total Deductions	$......	$......	$......
Net Income—Profit and Loss	$......	$......	$......
Add—Special Credits to Profit and Loss	......	......	......
	$......	$......	$......
Deduct—Special Charges to Profit and Loss	......	......	......
Profit and Loss for period	$......	$......	$......
Surplus beginning of period	......	......	......
	$......	$......	$......
Dividends Paid	......	......	......
Surplus at end of period	$......	$......	$......

8. Supporting Schedules

As the main object of the financial statement is to present a condensed and, as it were, a bird's-eye view of the result of operations, it is unnecessary to present all that detail which explains how the figures of the main items which appear on the statement are made up. This detail when required is presented in separate schedules. The first supporting schedule of the statement of a manufacturing concern is usually that of the cost of goods sold. Other schedules may also cover selling and administrative expenses and may comprise lists of accounts receivable and trade creditors. In short, an analysis may be made of the figures of any item which appears on either of the two principal statements, if such analysis is of interest to the individual concern. Examples of such schedules are given in the following chapters.

REVIEW QUESTIONS

1. What is a profit and loss statement?
2. What classifications must be distinctly maintained in a profit and loss statement?
3. How should interest earned be shown on a profit and loss statement?
4. Give examples of capital expenses.
5. How should sales returns be shown on a profit and loss statement?
6. What important suggestion does the Federal Reserve Board make in regard to profit and loss statements?

CHAPTER XXIII

STATEMENTS OF A MANUFACTURING BUSINESS

1. Constituent Parts of Report

The following group of statements constitutes a complete annual report of a manufacturing concern, where the assets or liabilities are not required to be shown in detail on schedules supporting Exhibit A (the balance sheet). The report consists of the following:

1. Balance sheet, December 31, 1919.
2. Statement of adjustments of surplus as of December 31, 1918.
3. Profit and loss statement for year ended December 31, 1919.
4. Statement of cost of goods sold during year ended December 31, 1919.

2. Arrangement of Report

The concern is a corporation, and the net worth indicates that the stock is worth $129 per share.

On the asset side of the balance sheet the fixed assets appear first, followed by the floating assets in the order of their availability. The deferred charges to Profit and Loss should always appear last. On the other side the liabilities are arranged to conform to the order of the assets. Net worth should be shown last.

Exhibit A—Schedule 1 shows entries made during the year under review which must not be shown in the current Profit and Loss account, as they apply to a previous year. The first item represents an error made as of December 31, 1918, but not discovered until after the books were closed. The remaining entries would not have been necessary if the books had been properly closed as of December 31, 1918. The bookkeeper omitted to set up the items paid in advance and the items accrued as of that date; consequently these errors are corrected the next year through Surplus account.

3. Form of Report

ATWOOD MANUFACTURING COMPANY

EXHIBIT A

BALANCE SHEET

December 31, 1919

Assets

Real Estate:				
Land (26.14 acres—cost)			$ 13,070.00	
Buildings (cost)		$350,000.00		
Less—Reserve for Depreciation (4% per annum)		28,000.00	322,000.00	
Machinery and Equipment:				
Fixed Machinery	$220,000.00			
Shafting, Hangers, Pulleys, etc.	14,000.00			
Movable Factory Equipment	4,500.00			
Stable Equipment	3,600.00			
Office Equipment	2,900.00	$245,000.00		
Less—Reserve for Depreciation (10% per annum)		49,000.00	196,000.00	
Drawings and Patterns in Use (inventoried at cost)			7,600.00	$ 538,670.00

Patent Rights (cost)		$ 75,000.00	
Less—Reserve for Extinguishment (5.88% per annum)		8,820.00	66,180.00
Sinking Fund for Extinguishment of Bonds			39,000.00
Cash:			
On Hand	$ 600.00		
In Banks	3,400.00	$ 4,000.00	
Accounts and Notes Receivable:			
Trade Debtors $156,000.00			
Less—Reserve for Doubtful Accounts .. 3,120.00	$152,880.00		
Personal Accounts Receivable	6,420.00		
Notes Receivable	12,800.00	172,100.00	
Inventories:			
Finished Products (cost)	$176,000.00		
Goods in Process (cost)	22,500.00		
Raw Materials (cost)	87,500.00		
Fuel and Factory Supplies (cost)	2,000.00	288,000.00	464,100.00
Deferred Charges to Profit and Loss:			
Interest Prepaid on Notes Outstanding		$ 845.00	
Insurance Premiums Prepaid		460.00	
Stable Supplies on Hand		115.00	1,420.00
			$1,109,370.00

Liabilities and Net Worth

Mortgage Bonds Outstanding:			
Dated January 2, 1919—due January 2, 1928			$ 200,000.00
Accounts and Notes Payable:			
Trade Creditors	$ 76,400.00		
Customers' Accounts showing credit balances	870.00		
Notes Payable (discounted at banks)	47,000.00	$124,270.00	
Items Accrued but Not Due:			
Interest on Mortgage Bonds	$ 5,933.33		
Taxes (estimated for 1919)	750.00		
Labor	566.67	7,250.00	131,520.00

Capital Stock (authorized issue 10,000 shares at $100)			
Issued and Fully Paid (600 shares at par)		$600,000.00	
Surplus:			
Balance, December 31, 1918, as adjusted (see Exhibit A—Schedule 1)	$ 95,400.00		
Net Profit for year ended December 31, 1919 (see Exhibit B)	100,450.00		
	$195,850.00		
Less—Semiannual Dividend (3%) declared July 10, 1919	18,000.00	177,850.00	
Net Worth			777,850.00
			$1,109,370.00

ATWOOD MANUFACTURING COMPANY

Exhibit A—Schedule 1

STATEMENT OF ADJUSTMENTS OF SURPLUS

During Year Ended December 31, 1919

Balance, December 31, 1918		$96,810.00
Add—Credit Adjustments:		
Error in Inventory of Raw Materials, as of December 31, 1918, $1,000 extended as $10		990.00
Interest Prepaid on Notes Outstanding as of December 31, 1918		780.00
Insurance Premiums Unexpired, as of December 31, 1918 ..		410.00
		$98,990.00
Deduct:		
Labor Accrued but Not Due, December 31, 1918	$ 950.00	
Loss on Bad Accounts charged off in 1919, which should have been provided for by means of a reserve, the same as has been done on December 31, 1919. This entry to adjust the omission	2,640.00	3,590.00
Balance, December 31, 1918, as adjusted (see Exhibit A)		$95,400.00

ATWOOD MANUFACTURING COMPANY

Exhibit B

PROFIT AND LOSS STATEMENT

Year Ended December 31, 1919

Gross Sales		$2,000,000.00	
Deduct—Returned Goods		14,600.00	
Net Sales			$1,985,400.00
Cost of Goods Sold (see Exhibit B—Schedule 1)			1,588,320.00
Gross Profit from Sales (20% of Sales—25% of Cost)			$ 397,080.00
Deduct:			
Selling Expenses:			
Advertising	$ 79,000.00		
Salesmen's Salaries	47,500.00		
Salesmen's Expenses	27,800.00		
Agents' Commissions	49,700.00		
Credit Man's Salary	3,500.00		
Mercantile References	550.00		
Stenographers — Selling Department	2,350.00		
Stable Expenses	3,200.00		
Miscellaneous	400.00		
Total Selling Expenses (54% of Gross Profits)		$ 214,000.00	
General Administrative Expenses:			
Officers' Salaries	$ 42,850.00		
Office Help	15,600.00		
Office Supplies	2,220.00		
Postage, Telephone, and Telegrams	1,165.00		
Auditing Charges	1,020.00		
Miscellaneous	865.00		
Depreciation of Office Equipment	290.00		
Total General Expenses (16% of Gross Profits)		64,010.00	278,010.00
Net Profits from Operations			$ 119,070.00

Deduct—Net Interest Charges and Loss on Bad Accounts:			
Interest on Bonds (1 year)	$ 12,000.00		
Interest on Notes Discounted	2,820.00		
Discounts on Sales	21,000.00	$ 35,820.00	
Less—Discounts on Purchases		20,000.00	
Net Interest Charges		$ 15,820.00	
Loss on Bad Accounts		2,800.00	18,620.00
Net Profit (see Exhibit A), (5% on Sales)			$ 100,450.00

ATWOOD MANUFACTURING COMPANY

Exhibit B—Schedule 1

STATEMENT SHOWING COST OF GOODS SOLD

During Year Ended December 31, 1919

Raw Materials Used		$584,893.80	
Productive Labor		779,701.68	
Total Direct Charges to Manufacturing During 1919 ..			$1,364,595.48
Manufacturing Expenses:			
Superintendence and Non-Productive Labor ..		$ 62,464.27	
Power, Heat, and Light		10,642.14	
Factory Supplies		6,420.18	
Repairs to Machinery and Equipment		9,624.10	
Insurance on Raw Material and Machinery		617.50	
Maintenance of Real Estate:			
Taxes	$ 2,865.00		
Insurance	1,765.00		
Repairs	1,147.25		
Depreciation	14,000.00		
	$19,777.25		
Less — Income from Renting Workmen's Cottages	2,650.00	17,127.25	
Depreciation of Machinery and Equipment		23,850.00	

Annual Charges for Extinguishment of Patent Rights	2,940.00	
Drawings and Patterns Charged Off	2,640.84	
Total Indirect Charges to Manufacturing during 1919		136,326.28
Total Charges to Manufacturing during 1919		$1,500,921.76
Add—Cost of Goods in Process, December 31, 1918	$ 42,136.24	
Less—Cost of Goods in Process, December 31, 1919	22,500.00	19,636.24
Total Cost of Production		$1,520,558.00
Add—Cost of Finished Goods on Hand, December 31, 1918	$243,762.00	
Less—Cost of Finished Goods on Hand, December 31, 1919	176,000.00	67,762.00
Cost of Goods Sold during 1919 (see Exhibit B)		$1,588,320.00

REVIEW QUESTIONS

1. What statements usually form the basis of an annual report for a manufacturing business?
2. How, if at all, should these statements be interrelated?
3. What is the objection to combining Land and Buildings into one asset item?
4. Why is it advisable to show the adjustments of surplus noted in Exhibit A, Schedule 1?
5. In the profit and loss statement, Exhibit B, what other percentage calculations would be of interest?

CHAPTER XXIV

STATEMENTS OF A MERCANTILE BUSINESS

1. Constituent Parts of Report

The following group of statements constitutes a complete annual report of a mercantile partnership, including schedules. It consists of:

1. Balance sheet.
2. List of balances due from customers, so arranged as to indicate the condition thereof.
3. Statement showing amount and cost of insurance in force, and the unexpired premiums.
4. Statement of adjusting entries made in 1919 affecting the net worth of the partners as at the close of the previous year.
5. Profit and loss statement.
6. Summarized analysis of sales, returns, cost of goods sold, and gross profits.

2. Arrangement of Report

The floating assets are given first, in the order of availability, then the fixed assets in the order of permanency and importance; tangible assets before the intangible. The deferred charges to Profit and Loss are shown last, regardless of which assets appear first. The floating liabilities appear first, followed by the fixed. Net worth always appears last.

The adjusting entries made in 1919, as indicated on Exhibit A—Schedule 3, would not have been necessary if the bookkeeper had properly closed the books on December 31, 1918. He erroneously omitted to enter certain bills and accrued items applicable to 1918 before the books were closed. As a result the partners' net worth as of December 31, 1918, had to be adjusted (corrected) during the subsequent year. It would have been incorrect to pass the adjustments through Profit and Loss.

3. Form of Report

MATTHEWS AND BURNS

EXHIBIT A

BALANCE SHEET

December 31, 1919

Assets

Cash:				
In Banks		$14,048.93		
On Hand		300.00	$ 14,348.93	
Accounts Receivable:				
Customers' (see Schedule 1)	$24,051.48			
Less—Reserve for Bad Accounts	945.00	$23,106.48		
Accounts Payable showing Debit Balances		601.49		
Advances to Employees and Agents		1,066.19	24,774.16	
Notes Receivable			7,490.70	
Inventories:				
Merchandise on Hand (cost)		$82,658.42		
Merchandise Consigned (cost)		30,701.56	113,359.98	$159,973.77
Real Estate:				
Land (plot 60′ x 250′), (cost)		$ 9,000.00		
Building (cost)		56,000.00	$ 65,000.00	

Fixtures	$18,462.00		
Less—Reserve for Depreciation (10% per annum)	5,538.00	12,924.00	77,924.00
Good-Will			25,000.00
Deferred Charges to Profit and Loss:			
Insurance Unexpired (see Schedule 2)		$ 1,345.52	
Advertising Cuts and Supplies		1,840.00	
New Catalogue		1,650.00	
Shipping Room Supplies		420.00	
Office Supplies		276.00	
Interest Prepaid		245.00	5,776.52
			$268,674.29

Liabilities and Net Worth

Accounts Payable:			
Trade Creditors	$35,035.65		
Customers' Credit Balances	105.78	$35,141.43	
Notes Payable:			
Discounted at Banks	$24,500.00		
Issued to Creditors	8,640.00	33,140.00	
Accrued Items:			
Taxes	$ 740.00		
Interest on Mortgages Payable	495.00	1,235.00	$ 69,516.43
Mortgages Payable:			
First		$25,000.00	
Second		8,000.00	33,000.00
Net Worth:			
James B. Matthews:			
Balance of Capital Account, December 31, 1918, as adjusted (see Schedule 3)	$63,146.24		
One-half Net Profit for 1919 (see Exhibit B)	20,081.23	$83,227.47	
William G. Burns:			
Balance of Capital Account, December 31, 1918, as adjusted (see Schedule 3)	$62,849.17		
One-half Net Profit for 1919 (see Exhibit B)	20,081.22	82,930.39	166,157.86
			$268,674.29

MATTHEWS AND BURNS

Exhibit A—Schedule 1

CUSTOMERS' ACCOUNTS RECEIVABLE

December 31, 1919

Name	Amount	30 days or Under	Over 30 not over 60 days	Over 60 not over 90 days	Over 90 days
H. W. Adams Co.	$ 4.00	$ 4.00	....	......	......
G. H. Benedict & Co. ..	185.00	185.00	....	......	......
Brown Retailing Co. ...	135.63	135.63	....	......	......
J. S. Butler & Co.	2,754.87	348.68	$2,406.19	......	......
Cameron Stores	14,841.00	8,186.93	6,654.07	......	......
Cone & McNeil	225.75	....	225.75	......	......
Derry & Sons	3.50	3.50	....	......	......
Donaldson Trading Co. .	51.84	51.84	....	......	......
Dunn, Goode & Co.	856.80	856.80	....	......	......
Everitt & Fisher	220.00	....	....	......	$220.00
Farnum & Brown	500.00	....	....	......	500.00
Good Value Co.	1,768.25	813.75	274.50	$630.00	50.00
Hamilton & Co.	110.00	110.00	....	......	......
H. J. Horner Co.	3.00	3.00	....	......	......
Ingraham Merc. Co.	199.77	199.77	....	......	......
Junior Mfg. Co.	196.88	196.88	....	......	......
Kellogg & Kellogg	24.00	....	....	......	24.00
Lamb Trading Co.	175.00	175.00	....	......	......
Long & Short	135.00	135.00	....	......	......
Maine Buying Co.	54.01	32.09	21.92	......	......
North Store Co.	1.70	1.70	....	......	......
Oppenheimer & Co.	72.62	72.62	....	......	......
Prince Stores	292.91	292.91	....	......	......
Frick Sales Co.	68.60	....	....	......	68.60
Right Treatment Co. ..	4.40	4.40	....	......	......
Sure Thing Co.	10.00	....	....	......	10.00
Tucker & Plater	333.82	333.82	....	......	......
Union Supply Co.	1.25	1.25	....	......	......
Vernon & White	821.88	596.88	225.00	......	......
Total (See Exhibit A) .	$24.051.48	$12,741.45	$9,807.43	$630.00	$872.60

MATTHEWS AND BURNS

Exhibit A—Schedule 2

STATEMENT SHOWING AMOUNT AND COST OF INSURANCE IN FORCE, AND THE UNEXPIRED PREMIUMS

As of December 31, 1919

Company	Risk	Date of Policy 1919	Expires 1920	Amount of Policy	Amount of Premium	Unexpired as of Dec. 31 1919
Scottish Union	Bldg.	Mar. 27	Mar. 27	$ 5,000.00	$ 62.50	....
London Assurance ..	"	"	"	14,000.00	175.00	....
Hartford Fire	"	"	"	6,500.00	81.25	....
Aetna-Hartford	"	"	"	15,000.00	187.50	....
American of Phil. ..	"	"	"	15,000.00	187.50	....
Mechanic-Erie	"	"	"	15,000.00	187.50	$ 212.98
Phoenix-Hartford ..	"	Aug. 1	Aug. 1	6,000.00	75.00	....
L. L. & Globe	"	"	"	8,000.00	100.00	....
Home of Newark ...	"	"	"	7,500.00	93.75	156.80
Manufacturers	Mdse.	July 1	July 1	34,180.00	427.25	....
Worcester Fire	"	"	"	16,000.00	199.50	....
National of N. J. ...	"	"	"	12,500.00	156.25	391.50
Royal	"	Aug. 1	Aug. 1	14,000.00	175.00	....
Union of Phil.	"	"	"	8,000.00	100.00	161.19
Connecticut	"	Oct. 1	Oct. 1	16.000.00	199.50	....
Germania	"	"	"	15,000.00	187.50	....
Royal	"	"	"	14,000.00	175.00	423.05
Amount of Insurance in force December 31, 1919				$221,680.00		
Cost of above Insurance					$2,770.00	
Unexpired Premiums, December 31, 1919 (see Exhibit A)						$1,345.52

MATTHEWS AND BURNS

Exhibit A—Schedule 3

STATEMENT OF ADJUSTMENTS IN 1919 AFFECTING THE NET WORTH OF THE BUSINESS

As of December 31, 1918

Debit Adjustments:

Taxes for 1918 paid in 1919 .... $ 715.00

Bills applicable to 1918 entered in 1919		1,724.16	
Salaries Accrued as of December 31, 1918, but paid and charged January 2, 1919		568.50	$3,007.66
Deduct—Credit Adjustments:			
Insurance Premiums Unexpired as of December 31, 1918			1,345.52
Net Debit Adjustments, to be charged to Partners' Investment Accounts in equal amounts			$1,662.14
Partners' Capital Accounts, December 31, 1918:			
James B. Matthews, as per books	$63,977.31		
Deduct—One-half of above Net Adjustments	831.07		
Balance as adjusted December 31, 1918 (see Exhibit A)		$63,146.24	
William G. Burns, as per books	$63,680.24		
Deduct—One-half of above Net Adjustments	831.07		
Balance as adjusted December 31, 1918 (see Exhibit A)		$62,849.17	

MATTHEWS AND BURNS

Exhibit B

PROFIT AND LOSS STATEMENT

Year Ended December 31, 1919

Gross Profit on Sales (see Schedule 1)		$134,190.60
Deduct:		
Selling Expenses:		
Salesmen's Salaries	$ 9,732.50	
Salesmen's Expenses	14,541.31	
Commissions	1,796.23	
Advertising	5,712.77	
Free Samples	3,264.24	
Freight and Cartage Outward	3,688.67	

Credit Man's Salary		3,619.08		
Cases and Shipping Supplies		1,368.19		
Mercantile Agencies		166.50		
Total Selling Expenses			$43,889.49	
General Administrative Expenses:				
Salaries		$39,279.14		
Maintenance of Real Estate:				
Interest on Mortgages	$ 990.00			
Taxes	740.00			
Insurance	660.00			
Repairs	246.00	2,636.00		
Depreciation of Fixtures		1,846.20		
Insurance on Stock		524.00		
Office Supplies		1,620.53		
Telephone, Telegrams, and Postage		1,264.22		
Collection Charges		524.99		
Heating and Lighting		361.18		
Suppers		78.25		
Incidentals		225.93		
Total General Expenses			48,360.44	92,249.93
Net Profits from Operations				$ 41,940.67
Deduct:				
Net Balance of Interest and Discount Items:				
Interest on Notes	$1,573.34			
Discounts on Notes	1,225.59	$ 2,798.93		
Less—Discounts on Purchases		1,820.71	$ 978.22	
Loss on Bad Accounts			800.00	1,778.22
Net Profit, year ended December 31, 1919, apportionable between Partners as follows:				
James B. Matthews (see Exhibit A)			$20,081.23	
William G. Burns (see Exhibit A)			20,081.22	$ 40,162.45

MATTHEWS AND BURNS

EXHIBIT B—SCHEDULE 1

SUMMARIZED ANALYSIS OF GROSS SALES, RETURNS, NET SALES, COST OF SALES, AND GROSS PROFITS

Year Ended December 31, 1919

Department	Gross Sales	Goods Returned	Net Sales	Cost of Sales	Gross Profit
A	$102,367.22	$ 9,772.41	$ 97,594.81	$ 36,487.96	$ 61,106.85
B	43,090.94	2,408.21	35,682,73	14,747.41	20,935.32
C	92,614.83	1,818.72	90,796.11	57,087.76	33,708.35
D	35,392.55	731.36	34,661.19	21,077.46	13,583.73
E	4,102.31	310.15	3,792.16	2,213.33	1,578.83
F	3,112.30	85.43	3,026.87	1,177.62	1,849.25
G	2,765.69	418.64	2,347.05	918.78	1,428.27
Gross Sales ..	$283,445.84				
Total Goods Returned ..		$15,544.92			
Total Net Sales			$267,900.92		
Total Cost of Sales				$133,710.32	
Total Gross Profits (see Exhibit B)					$134,190.60

Net profit from operations should always be shown before adding or deducting, as the case may be, interest on borrowed capital, discounts allowed, discounts taken (these refer to cash discounts only), loss on bad accounts, etc.

The writer is opposed to the plan, advocated by some accountants, of showing on the profit and loss statement the figures used in arriving at the cost of goods sold. It confuses the lay mind, and a financial report should be clear enough to be understood by one not familiar with accounts. It is advisable to show such figures either on a separate sheet, to be known as Exhibit

B—Schedule 1, or as a footnote on the profit and loss statement. In this and the previous report the cost of goods sold is worked out on Exhibit B—Schedule 1.

REVIEW QUESTIONS

1. What statement needed for a manufacturing business is not required in a mercantile concern?
2. Why is it desirable to show the debit balances of "accounts payable" as an addition to the accounts receivable?
3. How should consigned merchandise be shown on the balance sheet of the consignor? Of the consignee?
4. What is the object of showing notes payable to creditors separately from those discounted at banks?
5. What purposes are served by the schedule of insurance, Exhibit A—Schedule 2?

CHAPTER XXV

STATEMENT OF AFFAIRS AND DEFICIENCY STATEMENT

1. Statement Covering Liquidation and Bankruptcy Proceedings

The statement of affairs and the deficiency statement, or deficiency account, are usually employed in connection with the accounting of concerns which are in liquidation as a result of insolvency or bankruptcy.

The bookkeeper or auditor is but seldom called upon to make these statements. A bookkeeper usually severs his connection with a business before it becomes bankrupt and has little or no occasion to concern himself with its subsequent affairs. Neither is the public accountant usually called upon to prepare such statements, because the valuation of assets with which these statements are so largely concerned is a matter to be attended to by the appraisers and the referee.

The forms of the statement of affairs and the deficiency statement are brought in here because the bookkeeper or accountant should be able to prepare them if called upon to do so, and should be capable of passing upon them in case they are submitted to him for analysis or verification.

2. Appointment and Duties of Trustees in Bankruptcy

When an individual, partnership, or business corporation has been adjudged a bankrupt, the creditors at their first meeting after the adjudication* should appoint one or more trustees, as may be required. In case they do not exercise this privilege, the court will appoint. The first meeting referred to above must be held not less than ten nor more than thirty days after the adjudication, at the county seat of the county in which the bankrupt had his principal place of business.

The trustee in bankruptcy must account for all moneys belonging to the bankrupt concern which may be received by him; collect and reduce to money the property of the bankrupt; deposit all moneys received by him as such trustee in a bank designated by the court; disburse the funds only by check; lay before the final meeting of the creditors detailed statements of the administration of the estate; make final reports and file final accounts with the referee fifteen days before the day fixed for the final meeting of the creditors, and pay dividends within ten days after they are declared by the referee. He must also report to the court, in writing, the condition of the estate and the amount of money on hand, together with such other details as may be required by the court, within the first two months after his appointment and every two months thereafter, unless otherwise ordered by the court.†

It is customary for the trustee to compile, or have compiled, a statement of affairs and a deficiency statement, as illustrated hereafter, as soon as possible after his appointment. From these two statements the court, the trustee, and any other persons at interest, may gain

* The date of entry of a decree in a bankruptcy proceeding that the defendant is a bankrupt.

† The term "court" as used here means the court of bankruptcy in which the proceedings are pending, and may include the referee.

a fair idea of the probable results from liquidation. It is not compulsory on the trustee to have such statements compiled, but it is usually done as a matter of good practice.

The only statement actually required by the court must be furnished by the bankrupt himself within ten days after the adjudication if an involuntary bankrupt, and with the petition if a voluntary bankrupt. This consists of a schedule of his property showing the amount and kind of property, the location thereof, and its money value in detail; a list of creditors with their addresses, the amount due each of them, the consideration thereof, the security held by them, if any; and a claim for such exemptions as the bankrupt may be entitled to. This report must be rendered in triplicate.

3. Referees in Bankruptcy

Referees are appointed by the court of bankruptcy, for a period of two years. They are direct representatives of the court by which they are appointed. They declare dividends and prepare and deliver to the trustees the dividend sheets showing the dividends declared and to whom they are payable; they examine all schedules of property and lists of creditors filed by the bankrupts, and cause such as are incomplete or defective to be amended; they furnish such information concerning the estates in process of administration before them, as may be requested by the parties in interest; and they prepare and file the schedules of property and lists of creditors required to be filed by the bankrupts, or cause the same to be done, when the bankrupts fail, refuse, or neglect to do so.

4. Investigation of Bankrupt's Affairs

All real and personal property must be appraised by three disinterested appraisers, who shall be appointed by, and report to, the court. Their figures in respect to the estimated realizable value of the assets should be used in compiling the statement of affairs. The referee and trustees should co-operate in an effort to obtain a complete statement of all liabilities, including all contingent ones. In this effort they are permitted by law to require the bankrupt to appear before them and answer all questions they may elect to ask concerning his affairs. The public accountant is sometimes called in by the trustees to compile a report showing the condition of the assets and liabilities as at the date the trustees take charge of the business, or the date of adjudication, as the case may be. Such a report would not differ in form from a regular audit report, so far as the balance sheet is concerned. The auditor would present book values and not the appraisers' values.

5. Trustees' Accounts and Reports

Where it is deemed for the best interests of the creditors, the court will order the business conducted by the trustees as long as is advantageous. No special knowledge is required to keep or examine the accounts of trustees. The transactions pertaining to the liquidation of the business must be kept separate from those regarding the expenses of administering the business.

The statements presented to the referee by the trustees must show in summarized form all cash receipts and disbursements, properly classified, during the period covered by the report. It is a good plan to show in two additional columns the total of such receipts and disbursements from the beginning of the trusteeship to date. Another schedule should show the original condition of the liabilities, the amounts by which they have been reduced, and their present condition.

The referee may also desire a schedule showing the appraised value of the assets, the amount realized on each to date, the balance to be realized, and any comments by the trustees as to the probable proportion yet to be realized. If the business is being conducted by the trustees, they must also present a report showing the results from the conduct of the business.

6. Priority of Debts

Debts of the bankrupt which have priority are:

1. All taxes legally due; the necessary cost of preserving the estate after filing the petition.
2. The filing fees paid by creditors in involuntary cases.
3. Cost of administering the trusteeship.
4. Wages due workmen, clerks, or servants which have been earned within three months prior to the date of commencement of proceedings (not to exceed $300 to any one claimant).
5. Debts owing to any person who is entitled to priority by the laws of the United States; mortgages on real and personal properties, and mortgage bonds.
6. Liabilities in the form of written instruments (such as notes, etc.) secured by the assignment of certain assets specified in the instrument, and judgments and costs. A mort-

gage, or other secured liability, carries with it all accrued interest.

The debts which have priority may be divided into two classes: (1) those of preferred creditors, and (2) those of secured creditors. The former must be satisfied before any other liabilities are liquidated. The latter must be proved and allowed by the court, and then the property pledged as security must be converted into money according to the terms of the written instrument, or of the arrangement entered into between the creditor and the court. If the creditor's claim is not fully satisfied from the property pledged for its security, the balance due him ranks the same as the ordinary unsecured creditor's claim, and he is paid dividends accordingly.

7. Statement of Affairs

This form of statement consists of a regular balance sheet to which are added two columns, one on either side, for showing on the asset side the probable realizable values of the assets, and on the liability side the liabilities that must be paid out of the moneys realized from all assets except those mortgaged or pledged as collateral security. The difference between these two columns is called the deficiency—the excess of liabilities unsecured over the estimated amount available for their liquidation.

In the arrangement of a statement of affairs the assets should appear in the order of their availability; the liabilities in the order of priority—i.e., the preferred creditors first, the secured creditors next, the partially secured creditors next, and then the unsecured creditors, properly classified. All liabilities represented by mortgages payable or mortgage bonds outstanding should be deducted from the appraised value of the assets pledged (see liability No. 2 in the statement of affairs as shown in § 8). If the amount of the lien exceeds the appraised value of the property covered by the lien, then only such a part of the lien should be used as a deduction from the appraised value of the asset to which it applies, as will exactly equal that appraised value. The balance of the lien should be extended on the liability side because it represents the estimated portion of the liability that is unsecured (see liability No. 4). All liabilities secured by the assignment of assets should be deducted from the appraised value of those particular assets, and if that appraised value exceeds the amount of the liability, the balance should be extended on the assets side as part of the realizable assets for liquidating the unsecured liabilities (see liability No. 3).

The unsecured creditors are not listed in any particular order because they are on an equal footing so far as their claims are concerned. Bonds that are not a specific lien on property described on their face have no priority over ordinary trade creditors. Some real estate companies issue bonds stating "these bonds are a lien on all the assets of this company." This means nothing so far as security is concerned, and in case of a failure the bondholders rank with other unsecured creditors.

8. Deficiency Statement

The deficiency statement is usually called a deficiency account, but such a term is incorrect if the data are presented in statement form, as illustrated.

The deficiency statement merely shows how the amount of deficiency as shown in the statement of affairs is arrived at. It is started with the net worth (capital stock, plus surplus or minus deficit). For a business to be insolvent, the liabilities must exceed the value of the assets. (Value referred to here means the value of the assets to a going business.) Therefore, unless the shrinkage in assets wipes out all the surplus and the capital stock, the business is still solvent.

The items in the statement of affairs which require analysis to ascertain their composition should be supported by schedules showing the necessary details; e.g., accounts receivable should be supported by a schedule showing the name and balance of each individual personal account; the item of securities owned should be supported by a schedule showing the name of each security, number of bonds or shares, par value, cost, and appraised value; and the item of real estate should be supported by a schedule giving a description of each tract or piece of property, its cost to date, and its appraised value. The same applies to liabilities.

It is also advisable to attach to the report an explanation of the cause of any extraordinary shrinkages, and the probable cause or causes of the failure. In this particular case the largest shrinkage is in the item of real estate (see asset No. 5), which is carried at arbitrary values instead of at cost, these values having been placed entirely too high in order to inflate the surplus.

The statement of affairs and deficiency statement which follow differ in form from the examples given in other volumes of this set. The forms in Volume I, Chapter XII, are, in the writer's opinion, more explicit, but those given here are more commonly used.

9. Form of Statement of Affairs

CHRISTOPHER REALTY CORPORATION

EXHIBIT A

STATEMENT OF AFFAIRS

September 30, 1919

Assets		As per Ledger	Estimated realizable values, as per Appraisers' Values
(1) Cash:			
On Hand		$ 176.40	$ 176.40
In Banks		941.62	941.62
(2) Accounts Receivable:			
Rents (Good)		325.00	325.00
Rents (Doubtful)		460.00	
Sundry Personal Accounts (Good)		1,146.23	1,146.23
Sundry Personal Accounts (Doubtful)		2,162.75	
(3) Construction Materials (cost)		3,126.44	2,500.00
(4) Equipment (cost)		8,642.27	5,000.00
(5) Real Estate:			
1,726 Vacant Lots, Partly Improved (book value)		1,421,726.85	
Valued at	$ 710,863.42		
Houses Completed and in Process (cost)		92,846.51	
Valued at	70,000.00		
Office Buildings on Properties (cost)		3,876.20	
Valued at	1,000.00		
(6) Balance due on Lots Sold under Contract (titles not passed)	326,886.39	326,886.39	
Total Valuation	$1,108,749.81		
Deduct—Mortgage Liens on Unsold Properties and Lots Sold under Contract	641,531.27		467,218.54
(7) Securities on Hand:			
Mortgages Receivable		116,476.22	116,476.22
Stocks of Subsidiary Companies (cost)		172,000.00	80,000.00
(8) Securities assigned as Collateral to Notes Payable:			
Mortgages Receivable		76,000.00	

Valued at	$ 60,000.00		
Deduct—Liability No. 3	54,000.00		6,000.00
Stocks of Subsidiary Companies (cost) ..		50,000.00	
(Considered as of no value.)			
(9) Treasury Stock (100 shares at par)		10,000.00	
(10) Deficiency (see Exhibit B)			836,477.60
		$2,286,792.88	$1,516,261.61

Liabilities		As per Ledger	Expected to Rank
(1) Preferred Creditors:			
Taxes Due and Unpaid		$ 17,426.40	$ 17,426.40
Wages Due and Unpaid		1,641.50	1,641.50
(2) Creditors Secured by Mortgages:			
First Mortgages	$365,000.00		
Second Mortgages	176,684.00		
Interest Accrued	49,847.27	591,531.27	
(Deducted from assets Nos. 5 and 6.)			
(3) Creditors on Notes Payable Fully Secured		54,000.00	
(Deducted from asset No. 8.)			
(4) Creditors on Notes Payable Partially Secured		35,000.00	10,000.00
(Above amount represents a note secured by a second mortgage given for $50,000, included in amount of mortgage liens $641,531.27 deducted from asset No. 6. It is estimated that the mortgage is not good for more than $25,000.)			
(5) Ordinary Unsecured Creditors:			
Gold Debenture Bonds..................		465,000.00	465,000.00
Coupon Debenture Bonds...............		240,000.00	240,000.00
Instalment Debenture Bonds............		321,297.72	321,297.72
Trade Creditors		44,681.20	44,681.20
Agents		16,214.79	16,214.79
(6) Contingent Liabilities in the form of guarantees on bonds issued by a subsidiary company, and improvements guaranteed to lot purchasers......................			400,000.00
(7) Net Worth:			
Capital Stock Outstanding (par).........		200,000.00	
Surplus		300,000.00	
		$2,286,792.88	$1,516,261.61

10. Form of Deficiency Statement

CHRISTOPHER REALTY CORPORATION

EXHIBIT B

DEFICIENCY STATEMENT

September 30, 1919

Amount of Appreciation on Lots Unsold as of September 30, 1919		$ 436,184.26
Deduct Debit Balance of Profit and Loss Account as of September 30, 1919, being excess of Expenses over Profits from beginning of business February 10, 1910		136,184.26
Balance of Surplus Account, as per books, September 30, 1919		$ 300,000.00
Capital Stock Outstanding (2,000 shares at par)		200,000.00
Net Worth		$ 500,000.00
Shrinkage in Assets, being difference between their cost or book value, as the case may be, and the estimated value for the purpose of liquidation, as shown in detail on Exhibit A:		
Accounts Receivable (No. 2)	$ 2,622.75	
Construction (No. 3)	626.44	
Equipment (No. 4)	3,642.27	
Real Estate (No. 5)	736,586.14	
Securities (Nos. 7 & 8)	158,000.00	
Treasury Stock (No. 9)	10,000.00	
Loss through Shrinkage in Book Value of Lots covered by mortgage of $50,000 given to secure the payment of a note of $35,000 (see liability No. 4)	25,000.00	
Possible Loss through Contingent Liabilities not shown on books (liability No. 6)	400,000.00	
Deficiency (see Exhibit A)		836,477.60
	$1,336,477.60	$1,336,477.60

REVIEW QUESTIONS

1. How does a statement of affairs differ from a balance sheet?
2. What is the function of a deficiency statement?
3. How are creditors classified under the bankruptcy law?
4. How much "on the dollar" can the unsecured creditors reasonably expect from the statement of affairs shown in this chapter?

CHAPTER XXVI

METHODS OF COMBINATIONS

1. Growth and Development

A discussion of accounting practice as it is related to corporate combinations or consolidations, may with advantage be preceded by an outline of the causes which lead to consolidations and of the possible kinds of combinations which may legally be made.

As an industry expands, individuals or corporations engaged in the manufacture and sale of the same product increasingly feel the encroachment of competition among themselves. As this competition is usually found to be wasteful and expensive, the natural thought arises that its elimination between two or more companies will result in saving to all; hence the combination, the primary object of which is to control a number of sources of supply of the same article for the purpose of regulating prices.

The formation of a partnership by two men competing in the same business is an example of a business combination in its simplest form. When one or more individuals or partners combine their business assets and talents in the more flexible organization known as the corporation, the combination is of a more advanced type. The accountant of to-day, however, hardly considers the term combination in a business or financial sense as applying to anything short of a combination of corporations.

2. Pools and "Gentlemen's Agreements"

Until almost the end of the last century, in the majority of the states it was illegal for one corporation to acquire stock in another corporation with the object of controlling its operations and activities. This legal disability led to many subterfuges and expedients to defeat the intent of the law. Community associations and co-operative methods were the first recorded attempt at a combination of corporations through the medium of a mutual understanding. The next step, known as a "pool," was a popular form of association as early as 1875 and was based on what was termed a "gentlemen's agreement." The object of the pool was usually to stabilize prices by dividing selling territories or restricting output. A central selling organization was sometimes organized by a number of manufacturers. As the success of the plan depended entirely on the "gentlemen's agreement" between hitherto competing companies, the pool was unsatisfactory, as the stress of hard times usually proved too much for the combination, which often dissolved when co-operation was most needed.

3. Development of Trusts

To legalize the pool and provide a more stable form of administration than that afforded by the "gentlemen's agreement," the form of organization known as a trust came into being. This method of combination was first effected through the formation of a managing board of trustees. Several competing companies deposited their capital stocks with the trustees and received in exchange trust certificates. The plan enabled the trust to utilize many of the features of a combination in a more successful manner than was possible by the formation of pools, but adverse court decisions eventually caused the trusts to be dissolved.

The plan of "interlocking directorates" came into existence through the formation of the trust and through the control of large amounts of private capital thereby afforded. The directorate of the trust was composed of stockholders in two or more companies to an extent which enabled them to elect themselves or some employee to the directorates of all the companies. With the extension of this plan, the same group of men often composed the board of directors of several corporations and were thus in control of the management of the supposedly separate and competing companies.

4. Combinations by Lease and by Purchase

At about the same time that individual ownership in the capital stock of different companies became a recognized means of control and combination, there also came into existence the combination by lease and by outright purchase of the business. In the combination by lease, the entire property of one company was leased to another company for a term of years. In the combination by purchase, the entire property was sold and the selling corporation dissolved. Both of these methods required cash payments and were therefore limited in their application. Moreover, the original owners, who were also as a rule the managers or directors of the property sold, retired upon the disposal of their business, and the number of new plants that could be absorbed quickly by a new organization was limited when it was necessary for the additional property to be managed by the purchasing company.

5. Formation of Holding Company

The formation of pools and trusts and the purchase and lease of properties were no longer necessary expedients for the formation of combines when it became legal for one corporation to own the stock of other corporations. Statutes permitting such stock ownership by corporations were passed in several states prior to 1900 and with these enactments the modern holding company came into existence. The distinction between the combination by purchase and the holding company is important. The purchase of one corporation's assets by another usually extinguishes the identity of the purchased concern; whereas the holding company owns the capital stock of another corporation still in existence and operating through the original organization even though controlled.

The holding company is now the most common form of corporate combination and its popularity is indicated by the fact that almost every day corporations are formed for the sole purpose of owning the stocks of other corporations. When the holding company operates unfairly and eliminates competition to the extent of "restraining" trade, it has, in its turn, also come into conflict with the law and today many of the larger holding companies are being dissolved by order of the courts. The Sherman Anti-Trust Law (1890), the Clayton Act (1914), and the universal feeling aroused in the mind of the public during the last twenty years against the monopolistic tendencies of the holding company when its activities take on the character of those of a trust have created the impression that the holding company, as well as the trust, is illegal. The illegality, if any, however, is in the acts of the holding company. It does not, and in the writer's opinion should not, prevent the ownership by one corporation of stock in another corporation.

6. Forms of Stock Ownership

The ownership by one corporation of the shares of capital stock of another corporation does not always imply that the ownership is that of a holding company. For instance, a corporation may invest its surplus funds in the purchase of stocks of other corporations. In such cases, the securities so acquired represent legitimate investments and should appear under the heading of "Investments," on the balance sheet of the purchasing corporation.

Thus, building and construction companies often receive stocks of other companies as part or full payment for the erection of buildings. The capital stocks so acquired constitute ordinary current assets. As such stocks are received in settlement of accounts receivable, the securities are usually disposed of at the first favorable opportunity.

Again bankers, brokers, trust companies, and investment corporations always invest part of their working capital in shares of corporate stock. In this case the securities are part of their stock-in-trade, just as the steel inventory of a machine shop is part of its stock-in-trade. Securities so held represent the on-hand inventory resulting from dealing in negotiable paper of all kinds and should be classed as "Stocks and Bonds" under current assets on the balance sheet.

When securities are purchased for the purpose of obtaining control of other corporations, the securities represent a permanent interest in the property of the controlled company and they should appear on the balance sheet in the group of fixed assets even though a majority of the shares have not as yet been acquired. The stocks in this case are evidence of ownership of factory buildings, real estate, inventories, or other properties of the controlled companies. Whether the ownership is to be stated on the balance sheet as plant and property, inventories, etc., or as securities, is the cause of most of the differences of opinion which arise as to the correct method of recording the investment on the books of the holding company and of presenting the consolidated balance sheet. These matters will be discussed in following chapters.

7. Purpose of Holding Company

From the foregoing discussion it develops that a holding company is one that is formed for the sole purpose of controlling other corporations through stock ownership. Therefore the accounting on the books of the parent company should show this condition rather than that of incidental control through investments. The possession of the stock by a holding company is evidence of the ownership of actual properties, such ownership being merely a method of operating the properties through a second corporation. This controlled operation may be a complete ownership through the holding of the entire issue of stock; or it may be obtained through the ownership of only a majority of the stock; or the control may be exercised by possession of less than a majority of the shares issued. The modern holding company usually holds the control of several other corporations through stock ownership, sometimes by a bare majority of only the voting class of stock of the corporations thus controlled by the holding company.

8. Combination by Purchase of Property

The purchase of the property of one corporation by another corporation does not present a very difficult accounting problem. It is true that in the valuation of the asset items and in the statement of liabilities, all the problems and points discussed in preceding chapters may be raised, but these are accounting problems common to all types of organization. The discussion here is concerned only with the accounting required to record the purchase on the books of the holding company after an audit and investigation have produced a true statement of assets and liabilities.

The purchase transaction, if simple and usual in character, may be recorded in one journal entry which, reduced to the most simple terms, consists of a list of the assets of the subsidiary concern offset by its liabilities, capital stock, and profit or surplus.

For example, let us assume that the A Company has purchased all the assets, other than cash, and taken over all the liabilities of B and Company. The purchase price is $125,000 cash. The balance sheet of B and Company at the date of the transaction appears as below:

Assets		Liabilities and Capital	
Cash	$ 10,000.00	Accounts Payable	$ 25,000.00
Accounts Receivable	15,000.00	Notes Payable	15,000.00
Inventories:		B and Partners' Capital	125,000.00
Raw Materials	10,000.00	Profit and Loss	10,000.00
Goods in Process	5,000.00		
Finished Goods	10,000.00		
Plant and Property	75,000.00		
Machinery and Equipment	50,000.00		
	$175,000.00		$175,000.00

The entries on the books of the A Company would be as follows:

Plant and Property	$ 75,000.00	
Machinery and Equipment	50,000.00	
Inventory—Raw Material	10,000.00	
Inventory—Goods in Process	5,000.00	
Inventory—Finished Goods	10,000.00	
Accounts Receivable	15,000.00	
Accounts Payable		$ 25,000.00
Notes Payable		15,000.00
B and Company, Vendor		125,000.00
To record the purchase, etc.		
B and Company, Vendor	125,000.00	
Cash		125,000.00
To record the payment, etc.		

9. Combination by Lease of Property

A combination by the leasing of property is not a very common occurrence. Where it is found, the problem of valuing the lease is usually more difficult than the recording of entries to show the control. Where the entire property of one company is leased to another company for a long term of years, the proper statement of the accounts of the lessee company may present some difficulties. In an actual case the writer considered it proper to include the value of the leased property among the assets of the operating company. In this instance the terms of the lease involved the guarantee by the operating company of dividends on the entire capital stock of the lessor company as rental for 999 years. The real estate, buildings, etc., were set up as assets, and an amount equal to the capital stock of the lessor company was stated as a liability on the books of the operating company.

In the case of ordinary short-term leases, it would not be proper to value the leased property among the assets of the lessee company unless a flat amount in consideration thereof had been paid at the beginning of the term. This amount should then be amortized over the entire life of the lease. In England the amortization of the lease is invariably accomplished by the annuity method.

Additions to leased property may be capitalized as made and should then be extinguished during the term of the lease unless the lease contains some provision covering reimbursement for improvements.

In general, the terms of each lease will determine the need for unusual or special accounting entries. The simple form of short-term lease involving an annual rental payment need not in any way affect the property accounts of the operating company, and the entries to record expenditures for rent and maintenance usually may be confined to the expense accounts of the lessee company.

10. Combination by Consolidation

Though the term consolidation would properly be used only when an actual consolidation of ownership and accounts takes place, it is often used to cover that form of combination effected by the exchange of stocks between corporations, as distinguished from the combination effected by the purchase for cash of stock in one corporation by another. Here the intent is clear, for the control cannot in any way be considered as incidental to the transaction. The transaction, in short, is the purchase by a holding company of some or all of the stock of another company (thereafter a subsidiary company) and as consideration therefor the holding company makes payment in its own capital stock. The result is that the holding company owns shares of stock in the subsidiary company and the subsidiary company stockholders own shares of stock in the holding company.

In the discussion of holding company accounts and consolidated balance sheets, the consideration or purchase price given by the holding company is immaterial. The special points involved in such an exchange of stock will be considered in the following two chapters.

REVIEW QUESTIONS

1. What are "pools"?
2. What are "interlocking" directorates?
3. What is a holding company?
4. How can combinations be effected by leases?
5. What is the usual way of making a consolidation?

CHAPTER XXVII

HOLDING COMPANY BALANCE SHEET

1. Holding Company's vs. Consolidated Balance Sheet

The final goal or summary of all accounting for business transactions is the balance sheet and the income statement. These statements will be discussed here only as related to the accounting on the books of a holding company and without attempting to show any consolidation with subsidiary company accounts. Consolidated balance sheets and consolidated income statements will be covered in Chapter XXVIII.

At this point, it may be stated that in the opinion of the writer the bare statements of holding companies are of no value as a means of showing the financial condition of affiliated companies; and that anything short of a consolidated balance sheet and consolidated income statement may be actually misleading if it is intended to represent the condition and operation of subsidiary companies affiliated through stock ownership. The preparation of statements for the holding company as a unit is, however, necessary prior to the preparation of consolidated statements. It should be understood, therefore, that the following discussion is only preliminary to the discussion of the final consolidation of holding company accounts with those of subsidiary companies. Where the argument seems to imply that a holding company's statement reflects a true statement for affiliated companies, the reference is only to such a holding company as does not actually control the corporations investments in whose stock appear on the holding company's balance sheet.

2. Balance Sheet of Holding Company

For the purpose of illustration, it is assumed that a holding company is a corporation whose assets in part consist of the shares of capital stock of subsidiary corporations. Reduced to its simplest possible form, the balance sheet might read:

HOLDING COMPANY
BALANCE SHEET

Investments:		Capital Stock of Holding Company Outstanding	$1,000,000,00
8,000 shares of B Co. Capital Stock.	$ 800,000.00		
2,000 shares of C Co. Capital Stock.	200,000.00		
	$1,000,000.00		$1,000,000.00

In the above instance it is assumed that the holding company owns the entire capital stock issues of the two underlying companies, and that the par value of the stock as represented on the balance sheet is in each case exactly the difference between the assets and liabilities of the subsidiary companies. It is true that this condition would rarely if ever exist, but the statement is hypothetical and is presented only for the purpose of clarifying the discussion.

To take a more probable case, assume that the subsidiary companies' condition at the time of consolidation is as follows:

B Company:

Capital Stock Outstanding 8,000 shares (par $100)	$800,000.00
Surplus	150,000.00
	$950,000.00

C Company:

Capital Stock Outstanding 2,000 shares (par $100)	$200,000.00
Surplus	50,000.00
	$250,000.00

The holding company agrees to pay $1,000,000 in shares for the stock of B Company, and $300,000 in shares for the stock of C Company. The holding company's balance sheet would then appear as follows, it being assumed that the excess in each case represents good-will:

HOLDING COMPANY
BALANCE SHEET

Investments:		Capital Stock of Holding Company Outstanding	$1,300,000.00
8,000 shares of B Co. Capital Stock.	$1,000,000.00		
2,000 shares of C Co. Capital Stock.	300,000.00		
	$1,300,000.00		$1,300,000.00

It will be observed that investments in subsidiary companies are stated in the above balance sheet at cost, including good-will, and the values are respectively $125 per share for the B Company stock, and $150 per share for the C Company stock.

From the above it is apparent that in principle the balance sheet of a holding company is not necessarily a complicated statement. In actual practice, however, complications invariably arise which cannot be adequately shown on the balance sheet of the holding company. In the interests of good accounting, then, it becomes necessary to resort to the consolidated balance sheet.

3. Advances to Subsidiary Companies

The first complication which arises is usually when the holding company makes advances to a subsidiary for the purpose of adding to or extending the plant or other fixed assets of the latter, after they have been acquired by the parent company; or advances may be made for the purchase of stock-in-trade and in this or other ways provide additional working capital for the subsidiary company. Under such circumstances, either the advances may be repaid to the holding company, or, if any authorized stock of the subsidiary is available, payment to the holding company may be made by an additional stock issue. The holding company, however, may prefer to rank, to some extent, as a creditor of the subsidiary, instead of entirely as a stockholder, in which case notes or bonds may be taken in payment instead of shares of stock. The complications with regard to such advances arise chiefly when the latter are not represented by additions to the assets of the subsidiary company, and where in fact the advances are made necessary by operating losses. In such a case it is apparent that a loan of this character should not appear as an asset on the holding company's balance sheet unless offset by a corresponding valuation reserve.

When a subsidiary company's operations result in a deficit, a holding company owning a majority of the subsidiary stock should write down the asset representing this stock. If it were possible properly to record all other details of the affiliated company, there would not be so much objection to the holding company's statement representing that of a unit or a single organization. But it is impracticable properly to reflect all fluctuations in the value of the securities of the subsidiary companies on the holding company's balance sheet.

4. Methods of Balance Sheet Presentation

Though the statements of holding companies and subsidiaries may be presented in a hundred different ways, depending on the purpose to be served, in general all the methods may be classified under one of the following heads:

1. The consolidated balance sheet, which includes the accounts of the holding company and all its subsidiaries.
2. The holding company's balance sheet alone, without reference to the detailed assets of the subsidiary companies.
3. The holding company's balance sheet, showing a proportionate share of the subsidiary companies' assets as indicated by the proportion of the subsidiary companies' stock held by the holding company.
4. The holding company's balance sheet and as much of the surplus of the subsidiary companies as belongs to the holding company—the amount of the surplus being in proportion to the amount of stock held by the holding company.

While the only method of presentation which reveals the whole truth and all the details is the first method given above, it is necessary to illustrate and show the purposes of the three other methods, so that the construction of the consolidated balance sheet may be clearly understood. The omission of all details as to the assets of the subsidiaries on the holding company's balance sheet—the second method outlined above—occurs when the accounts of the holding company reflect as earnings only the dividends received on subsidiary stock.

When dividends are not declared, the holding company's balance sheet does not usually give this information, yet the public is entitled to it. The investor is then left "guessing" as to whether profits have been made, but no dividends declared, or whether no profits have been made, but, in fact, a loss sustained. The investment account on the holding company's balance sheet should be increased in proportion to the subsidiary companies' profits, and be reduced in proportion to any losses.

Thus, while the second method may be, but usually is not, a true statement as regards its total, it cannot show whether a loss has been caused by a reduction in the value of the current or fixed assets of the subsidiary companies. The gain or loss can be shown only as an increase or decrease in investments or fixed assets.

The third method is advocated by some accountants who contend that the holding company's balance sheet should show its proportionate ownership in the assets and liabilities which appear on the subsidiary companies' balance sheets. Thus, if the holding company owns

90% of the stock of a subsidiary factory worth $1,000,-000, the holding company's balance sheet would show plant and property at a value of $900,000, and so on with the other assets and liabilities. Such a statement, however, is incongruous in that it regards as divisible such indivisible assets as buildings, mortgages, etc. For this reason this arbitrary method of showing asset values is not frequently adopted.

Under the fourth method listed above, the holding company's statement shows in addition to investments another account representing accrued earnings on investments in underlying companies, such earnings representing the holding company's proper share of the sub-companies' surplus. This method of showing is similar in some respects to the second method described above. The accrued earnings in Investment account may be grouped under the current asset or fixed asset items as indicated by the permanency of the control exercised over the operations of the underlying companies. But even when earnings are so stated, the public is still without essential details as to their source—as in the case under the second method.

From the foregoing it is seen that anything short of a consolidated balance sheet cannot wholly satisfy the stockholders of the holding company owning a majority of stock in any subsidiary company. The only satisfactory and complete method of presentation, therefore, is to show the actual facts of consolidation on a combined balance sheet which gives details as to either investments or the total assets and liabilities of the parent company.

Before presenting such a balance sheet, two special points relating to the holding company's balance sheet may with advantage be taken up. The method of showing the investments in the subsidiaries depends upon whether or not the holding company also operates the subsidiary concerns. If the management of the subcompanies is not controlled by the parent company, all advances to or by each subcompany and the stock of each subcompany, at cost, should be stated separately on the holding company's balance sheet. "At cost" means the cost of acquisition by the holding company, with the par value of the stock shown separate from the premium or discount, if any has been paid. If the holding company is also an operating company, then the assets and liabilities and details of its operations should be recorded clearly on its books and should not be merged with any subcompany operations affecting the parent corporation. This procedure is advisable so that the operation of consolidation may be the more readily and clearly effected.

5. Illustration of Holding Company's Balance Sheet

To illustrate the drawing up of the balance sheet of a holding company in a form suitable for consolidation with the statements of its subsidiaries, it is assumed that the Jones Company owns 900 shares or 90% of the capital stock of the Brown Company, and 400 shares or 80% of the stock of the Smith Company. The Jones Company has borrowed $100,000 from the Brown Company on note, and loaned it to the Smith Company on mortgages. The Brown Company's stock has cost $150 per share, and the Smith Company's stock has been purchased for $90 per share, payment having been made in

Jones Company capital stock of $100 par value. The Jones Company is an operating company and has a plant and inventory and other assets worth $1,009,000, with liabilities of $300,000; $200,000 of its stock has been issued to the public, and of the surplus of $400,000, $105,000 has been carried to Undivided Profits account.

The Brown Company declares and pays a dividend of 10% on its outstanding stock. Interest on the Jones Company's note at 5% and on the Smith Company's mortgage at 6% has not been paid one year after the acquisition of the stock by the Jones Company. After recording the accrued interest and the interest payable, the balance sheet of the Jones Company (the holding company) will show assets, liabilities, and surplus as follows:

JONES COMPANY

BALANCE SHEET

December 31, 1919

Assets

Plant, Property, Inventories, Cash, etc. (Operating Assets which should be classified)			$1,009,000.00
Investment in Brown Company:			
900 shares of Capital Stock:			
Par value		$ 90,000.00	
Premium		45,000.00	135,000.00
Investment in Smith Company:			
400 shares Stock:			
Par Value	$40,000.00		
Less—Discount	4,000.00	$ 36,000.00	
Mortgage Receivable		100,000.00	
Interest Receivable		6,000.00	142,000.00
			$1,286,000.00

Liabilities and Capital

Liabilities (which should be classified)		$ 300,000.00
Brown Company:		
Note Payable	$100,000.00	
Interest Payable	5,000.00	105,000.00
Capital Stock:		
To Public	$200,000.00	
To Brown Company	135,000.00	
To Smith Company	36,000.00	371,000.00
Surplus:		
Unappropriated	$395,000.00	
Undivided Profits	105,000.00	
Brown Company Dividend	9,000.00	
Smith Company Interest	6,000.00	
	$515,000.00	
Less—Brown Company Interest Paid	5,000.00	510,000.00
		$1,286,000.00

The Surplus account in the above illustration is purposely set out in detail to show the intercompany items.

6. Profit and Loss Statement of Holding Company

The Jones Company's profit and loss statement shows the net profits of $115,000 to be made up as follows:

Profit from Operations	$105,000.00
Dividends on Brown Company Stock	9,000.00
Interest Earned on Smith Company Mortgage	6,000.00
	$120,000.00
Less—Interest Accrued on Note Payable to Brown Company	5,000.00
	$115,000.00

The income of a holding company, as such, is derived principally from dividends on the stocks of subsidiaries and interest on loans to subsidiaries. If all subcompanies operate at a profit and pay the entire profit in dividends to the parent company, then the income account of the holding company would be a correct statement of profit and loss. Where, however, less than the full amount of the profit of the subsidiaries is paid to the holding company in dividends, or where one or more of the subcompanies operate at a loss, then the holding company's income statement would not show the full truth.

The balance sheet and profit and loss statement shown above are now ready for consolidation. By this procedure all intercompany accounts are eliminated, leaving only the accounts affecting the outside public. The above method of presentation is suggested as providing a ready means for offsetting the intercompany accounts of the holding company against the intercompany accounts as they appear on the balance sheets of the Brown Company and the Smith Company, the subsidiary companies.

7. Objections to Holding Company's Balance Sheet

In further explanation, it should be noted that the above form of balance sheet would not be suitable for a statement to be rendered to the public. The subcompanies may have operated at a loss or at a profit, but that at present is of no consequence since no attempt is being made to draw up a true balance sheet of the Jones Company for public presentation. The statement above, as previously noted, is a holding company's balance sheet drawn up in form suitable for consolidation with subcompany statements. An important objection to such a balance sheet considered as a financial statement is illustrated by the fact that it does not disclose the liabilities of the Brown Company and the Smith Company to outsiders, although the capital stock of those companies is shown as an asset. Queries that would naturally arise in the mind of the investor, as he scrutinizes the statement, are whether or not the Brown Company has borrowed from outsiders the $100,000 loaned to the holding company; whether or not the dividend is the result of profits earned in 1919; and whether or not the two subsidiary companies are mortgaged "to the hilt." The foregoing queries may be answered by taking up on the holding company's statement any accruals of subcompany profits and by providing for any subcompany losses.

But if this is to be done, the problem arises as to the terms to be used and the method of showing such profits or losses on the holding company's balance sheet. The answer to the problem can only be obtained by an analysis of each subcompany's balance sheet for the purpose of ascertaining how the profits have been disposed of or what assets and liabilities have been affected by any losses. Only after these facts have been determined, can the accrued profit or loss be properly named on the holding company's balance sheet. Usually this method of presentation will require several subdivisions of the different classes of assets, and the method thus becomes cumbersome and confusing. For the sake of clearness and simplicity, when a statement is required for public presentation or for the scrutiny of the shareholders of the parent company, the holding company's balance sheet is invariably discarded in favor of the consolidated balance sheet and consolidated income statement.

REVIEW QUESTIONS

1. In what respects is a holding company's balance sheet deficient in showing the financial condition of a group of consolidated corporations?
2. Should advances to subsidiary companies always be canceled in preparing a consolidated balance sheet?
3. How should the cost of capital stock of a subsidiary company be shown on a consolidated balance sheet?
4. Under what circumstances would the income account of a holding company be a sufficient statement of the income of the consolidated group of companies?
5. What are the four methods of balance sheet preparation for consolidated corporations, and which is best?

CHAPTER XXVIII

CONSOLIDATED BALANCE SHEET AND INCOME STATEMENT

1. Purpose, and Income Tax Regulation

The main purpose of the consolidated balance sheet is to present a statement of the combined balance sheets of a group of affiliated companies in such a manner as to eliminate all intercompany accounts and exhibit the assets and liabilities and net worth of the entire group as one enterprise.

Government Regulations No. 45, relating to the federal income tax on corporations, contain an authoritative brief for the consolidated statement in Article 631 which is quoted herewith:

"Affiliated corporations. The provision of the statute requiring affiliated corporations to file consolidated returns is based upon the principle of levying the tax according to the true net income and invested capital of a single business enterprise, even though the business is operated through more than one corporation. Where one corporation owns the capital stock of another corporation or other corporations, or where the stock of two or more corporations is owned by the same interests, a situation results which is closely analogous to that of a business maintaining one or more branch establishments. In the latter case, because of the direct ownership of the property, the invested capital and net income of the branch form a part of the invested capital and net income of the entire organization. Where such branches or units of a business are owned and controlled through the medium of separate corporations, it is necessary to require a consolidated return in order that the invested capital and net income of the entire group may be accurately determined. Otherwise opportunity would be afforded for the evasion of taxation by the shifting of income through price fixing, charges for services and other means by which income could be arbitrarily assigned to one or another unit of the group. In other cases without a consolidated return excessive taxation might be imposed as a result of purely artificial conditions existing between corporations within a controlled group."

2. Method of Consolidation

In principle, all that is required to accomplish the consolidation is to substitute for the item of "Investments" on the holding company's balance sheet, the actual assets and liabilities of the subsidiary companies represented by the term "Investments." To illustrate the procedure in its most simple form, assume that Company No. 1 owns the entire capital stock of Company No. 2 and Company No. 3, and that there is no surplus or deficit or intercompany account—as would of course seldom, if ever, happen. The balance sheet of the holding company is as follows:

COMPANY NO. 1

BALANCE SHEET

Assets		*Liabilities and Capital*	
Investments	$100,000.00	Capital Stock	$100,000.00

Company No. 2 has plant worth $200,000, other assets of $100,000, and liabilities of $250,000.

Company No. 3 has plant worth $300,000, other assets of $200,000, and liabilities of $450,000.

The combined balance sheets of the subcompanies appear as follows:

Assets:	No. 2	No. 3	Total
Plant and Property	$200,000.00	$300,000.00	$500,000.00
Other Assets	100,000.00	200,000.00	300,000.00
	$300,000.00	$500,000.00	$800,000.00
Liabilities:	$250,000.00	$450,000.00	$700,000.00
Capital Stock	50,000.00	50,000.00	100,000.00
	$300,000.00	$500,000.00	$800,000.00

A consolidation of the balance sheets of the three companies would be effected as follows:

Assets:	Holding Co.	Combined Sub-companies	Offset	Consolidated
Plant and Property	....	$500,000.00	....	$500,000.00
Other Assets	....	300,000.00	....	300,000.00
Investments:				
Capital Stock, No. 2 ...	$ 50,000.00	....	$ 50,000.00	....
Capital Stock, No. 3 ...	50,000,00	....	50,000.00	....
	$100,000.00	$800,000.00	$100,000.00	$800,000.00
Liabilities:	....	$700,000.00	....	$700,000.00
Capital Stock, No. 1	$100,000.00	....	....	100,000.00
Capital Stock, Subco.'s ..	....	100,000.00	$100,000.00	....
	$100,000.00	$800,000.00	$100.000.00	$800,000.00

As the investments of $100,000 on the balance sheet of Company No. 1, representing the total stock of the subsidiary companies, are replaced by assets offset by liabilities, the item of $100,000 is eliminated on both sides of the balance sheet of the consolidated companies, which therefore appears as below:

COMPANY NO. 1

CONSOLIDATED BALANCE SHEET

Assets		*Liabilities and Capital*	
Plant and Property ...	$500,000.00	Liabilities	$700,000.00
Other Assets	300,000.00	Capital Stock	100,000.00
	$800,000.00		$800,000.00

From the above it is seen that in principle the consolidation of balance sheets is a simple matter. In actual practice, however, a number of complications usually arise which make the work of substituting assets and liabilities for "Investments" a puzzling problem if the statement of financial condition is to be true and fair to all parties concerned. The following list of suggestions will be found helpful in avoiding these complications and will indicate the nature of the problems which are met in most cases of consolidation.

1. All subcompany balance sheets should be drawn up in the same form.
2. All subcompanies should be placed on the same fiscal year basis, and all subcompany balance sheets should be drawn up at the same date.
3. The complete accounting systems, including costs, of all companies should be reduced to a uniform basis.
4. All intercompany accounts should be stated separately on all balance sheets.
5. The surplus or deficit of all subsidiary companies should be shown in two amounts:

    (a) Amount accumulated up to date of acquisition by the holding company.
    (b) Amount accumulated subsequent to date of acquisition by the holding company.

6. The capital stock accounts of all subcompanies should be stated in three amounts, viz.:
    (a) Stock owned by holding company.
    (b) Stock owned by other subcompanies.
    (c) Stock owned by general public.
7. Transfers of product and sales of service between the affiliated companies should be at cost.
8. Where intercompany sales include a profit, an examination of the books should be made to determine whether any of this intercompany profit is included in inventories of stock on hand, or has been charged to the cost of construction where the product or the factory facilities have been utilized in the construction of buildings or other fixed assets.
9. Interest, royalty, and other expense payments between the affiliated companies should be stated separately in all income statements.
10. Dividends between companies should be stated as separate items in the income statements and surplus accounts of each company.

Most of the above points are self-explanatory, and if the accounting policy they indicate is carried out on or prior to the consolidation, most of the difficulties which arise in consolidating will be readily solved.

A further explanation may be necessary in connection with points 5 and 6. In substituting the assets and liabilities for the Investment accounts, it will usually be found that the net aggregate of assets less liabilities of the subsidiary companies will not equal the Investment account on the holding company books. The difference will be composed of one or more of the three following factors:

1. The excess above par or the amount below par paid by the holding company for the subcompany stock.
2. The surplus or deficit of the subcompany accumulated up to the time of acquisition by the holding company.
3. The accumulated gain or loss of the subcompany subsequent to the date of acquisition by the holding company.

3. Surplus of Subsidiaries as Premium

In considering the above reasons for the difference between the book value of the investments and the net assets of the subsidiaries, it should be remembered that when a holding company purchases the stock of another company, the price paid for the capital stock represents the value of the equity in the subsidiary company as estimated by the holding company. If the price paid is equal to the capital stock and surplus of the subcompany, as at the date of purchase, then the premium paid above par for the stock represents the accumulated surplus of the subcompany. Therefore item 2 above is included in item 1. The surplus of the subsidiary earned prior to the time of purchase by the holding company cannot be considered as surplus of the holding company, and in consolidating the balance sheets it will be offset against the premium paid for the subcompany's capital stock.

To illustrate, it is assumed that a holding company issues its stock to the amount of $80,000 for a subcompany's entire capital stock of the par value of $50,000, with an accumulated surplus of $30,000. If the plant and other assets of the subcompany equal $80,000, the consolidated balance sheet would appear as follows:

	Subcompany	Holding Company	Eliminations	Consolidated Balance Sheet
Assets:				
Plant and Other Assets	$80,000.00	....	....	$80,000.00
Investments at par	....	$50,000.00	$50,000.00	....
Premium on Investments	....	30,000.00	30,000.00	....
	$80,000.00	$80,000.00	$80,000.00	$80,000.00
Liabilities:				
Capital Stock, Holding Company	....	$80,000.00	....	$80,000.00
Capital Stock, Subcompany	$50,000.00	....	$50,000.00	....
Surplus at acquisition	30,000.00	....	30,000.00	....
	$80,000.00	$80,000.00	$80,000.00	$80,000.00

The subcompany's surplus of $30,000, for which a premium of like amount is paid, cannot be considered as a surplus of the holding company and for this reason it is eliminated.

4. Profits of Subsidiaries Prior to Consolidation

Where no premium is paid for the capital stock of a subsidiary company, but surplus is shown on its books at the date of acquisition, such surplus must be deducted on the consolidated balance sheet from the Property or Plant account of the consolidated company. This point is clearly and concisely brought out by A. Lowes Dickinson in "Accounting Practice and Procedure," from which the following paragraphs are quoted:

"A question of considerable importance in its bearing upon the determination of profits in a holding company, or in any corporation which has acquired a going business, is that of the proper disposition of the profits of the consolidating companies, or of the purchased business, earned prior to the date of consolidation. There is a clear rule of common sense, and probably also of law, that a corporation cannot earn profits before it exists; when, therefore, a corporation at its organization purchases an undertaking, together with the profits accrued from a certain prior date, the whole of such profits earned prior to the date of purchase must be treated as a deduction from the purchase price, and not as a credit to Income account available for dividends.

"This proposition is the more evident if it be remembered that these profits exist in the form of assets included among those purchased, and that any realization thereof is merely a return to the purchasing company of a portion of the purchase money, i.e., of the capital of the corporation. Similar reasoning will show that where a holding corporation purchases the stocks of several others, all profits of the purchased corporations accruing up to the date of the purchase must be treated by the holding corporation as a deduction from the price paid."

5. Premiums and Good-Will

It is generally conceded that a premium paid above par represents good-will or, as it is sometimes expressed, "premium paid for capital stock of subcompany." Whatever the term applied, it may be properly considered as an asset of the holding company; but as the surplus of the subcompany at acquisition is not a surplus of the consolidated company, and must have been considered in the price paid, then such surplus at acquisition should be deducted from the combined Property accounts (including good-will) of the companies to be consolidated. If in the above example the price paid had been $90,000, the total Property accounts including good-will (or premium on investments) would have amounted to $120,000. From this should be deducted the surplus at acquisition, leaving net assets of $90,000. Some accountants prefer to show such a Property account in two items, indicating the item of good-will or "Premium paid for acquisition of securities of Blank Company, representing excess of par value of securities issued over par value of securities acquired" ($10,000), as distinct from the plant and other assets, valued at $80,000.

6. Treatment of Surplus of Subsidiary

From the foregoing, the rule develops that the surplus of a subsidiary company, as at the date of acquisition, should be deducted from the combined Property account when the subsidiary company is consolidated with the holding company. This ruling, as will be explained later, does not apply where the subcompany is not entirely owned by the holding company. There are objections to the above general rule or possibly only to the wording thereof, but usually it will be found acceptable and space does not permit an extended discussion covering a different treatment for special cases.

Where the price paid falls below the total of the surplus and par value of the subsidiary company's capital stock, the indication is that the assets on the subcompany's books are overvalued. Here again, it is proper to deduct the surplus from the Property account. To revert to the preceding illustration, let it be assumed that the price paid was $70,000. On consolidation the Property account, including the premium paid for capital stock, becomes $100,000 less the surplus as at acquisition $30,000, and the result is that the value of the plant and other assets becomes $70,000. Consequently, when the aggregate net assets of the subsidiary company do not equal the Investment account on the holding company's books, the excess of "offset" on the holding company's statement should be considered to apply to (1) the purchase of the surplus of the subcompany as at the date of acquisition, and (2) the price paid for good-will. Conversely, when the net assets of the subsidiary company are greater than the Investment account on the holding company's books, the deficiency of "offset" may be considered as the extent of the overvaluation of the assets on the subsidiary company's books.

Having established the fact that a subsidiary company's surplus accumulated prior to its purchase by a holding company cannot be considered a surplus of the holding company, then the above treatment of such surplus will be generally accepted as correct in principle if not in actual detail. Certainly no accountant would attempt to consolidate the surplus of the subcompany before its acquisition by the holding company, with the surplus of the latter.

7. Surplus of Subsidiary when Stock Only Partly Acquired

When the holding company has not acquired the entire capital stock of a subsidiary company, the accountant must respect the rights of the minority interests in the surplus of the latter. This right covers the entire surplus even though the amount accumulated up to the time of acquisition is stated separately from the amount thereafter accumulated.

To illustrate this point, take the following example: H Company purchases 900 shares or 90% of S Company's capital stock, giving in exchange therefor 1,200 shares of its own capital stock. At the time of purchase, S Company's assets amount to $120,000, which are offset by capital stock $100,000 and surplus $20,000. One year later S Company's assets have increased to $140,000, and the corresponding surplus amounts to $40,000. The following working sheet indicates the method of consolidation, in which provision is made for the minority interest one year after the purchase of the stock:

	S Company	H Company	Eliminations	Consolidated
Assets	$140,000.00	....	....	$140,000.00
Investment (Par) ..	....	$ 90,000.00	$ 90,000.00	....
Investment (Premium)	....	30,000.00	18,000.00	12,000.00
	$140,000.00	$120,000.00	$108,000.00	$152,000.00

Liabilities:	S Company	H Company	Eliminations	Consolidated
Surplus—Minority ..	$ 4,000.00	....	....	$ 4,000.00
Capital Stock (S Co.):				
H Company	90,000.00	....	$ 90,000.00	....
Minority	10,000.00	....	....	10,000.00
Capital Stock (H Co.):	....	$120,000.00	....	120,000.00
Surplus — Acquisition	18,000.00	....	18,000.00	....
Surplus — H Co. ..	18,000.00	....	....	18,000.00
	$140,000.00	$120,000.00	$108,000.00	$152,000.00

A balance sheet in technical form would be:

H COMPANY

CONSOLIDATED BALANCE SHEET

Assets		*Liabilities and Capital*		
Assets (itemized)	$140,000.00	Liability to Minority Interest in S Co. represented as follows:		
Good-Will	12,000.00	Capital Stock	$ 10,000.00	
		Proportion of Surplus	4,000.00	
			$ 14,000.00	
		Capital Stock	120,000.00	
		Surplus	18,000.00	
	$152,000.00		$152,000.00	

8. Consolidated Income Statement

The ideal method of showing an income statement for a consolidated company is to consolidate income statements of the parent and subsidiary companies. The foregoing discussion regarding the elimination of all intercompany items from the consolidated balance sheet applies with equal force to the consolidated income statement. The reader is here referred to the list of suggestions given in § 2, which are equally applicable to an income as to a balance sheet consolidated statement. Special reference should be given to the last four items.

The profit made by one company on a sale of its product to another affiliated company should be offset against the same amount charged to cost by the purchasing company. Also interest paid by a subsidiary company to a holding company should be eliminated from the expenses of the subsidiary and offset against the same amount in the income of the holding company. Likewise in consolidating, any dividend paid by a subsidiary on its capital stock owned by the holding company should be eliminated from the accounts of both companies.

The above items are merely indicative of the manner in which all other intercompany items of expense and income should be treated. The object is apparent. The consolidated income statement should reflect those items of expense and income only which affect the whole group of companies as regards loss and gain outside the entire organization. Intercompany profits between controlled companies are of the same character in a consolidated statement as the interdepartment profits of a single company.

Though in theory the procedure of elimination seems to present no difficulty, in practice it will be found to be difficult, especially as regards the treatment of costs and gross profits. For this reason most accountants content themselves and satisfy their clients by eliminating all intercompany interest and dividends, and possibly general expenses, but no attempt is made to deal with the items of costs and gross profits. The general rule is that all intercompany interest payments and dividend payments must be eliminated, and if other intercompany income and expense items are not eliminated and offset, then a reserve should be set up for the estimated amount of such intercompany profits still remaining in the asset accounts of the combined companies. Such intercompany profits are usually derived from inventory sales or transfers and from construction work when one company sells its services or its products at a profit to another affiliated company.

9. Treatment of Intercompany Profits

Where there are a number of subsidiary companies engaged in manufacturing, mining, and transportation, with transfers or sales between companies, or where transportation is carried on by subsidiary companies, it will be found difficult and sometimes impossible to eliminate all profit from these intercompany transactions. A practical method of overcoming this difficulty in the showing of a consolidated income statement, although not consistent, is to combine all sales and all costs and to show the aggregate of all items with a special division of sales as between companies and to the outside public. The resulting combined gross profit will then be correct and most objections are met by the suggested division of sales, but the total sales and total costs, as indicating the business done by one organization, are in reality exaggerated. In the case of large enterprises this method is often the only practicable plan and it is not a serious deviation from the "whole truth" unless the products of one subcompany are used in the construction of fixed assets by another affiliated company.

Where a purchasing subcompany uses the products of another subcompany in construction work, and such products have been purchased at a profit, it will be seen that the Construction accounts will contain an element of intercompany or interdepartment profit. This profit must be estimated and deducted from the Construction account in a consolidated statement by means of a reserve created out of the consolidated profit. Where minority interests are affected, the reserve should appear on the consolidated statement; the same procedure applies to the inventories which include intercompany profits above costs. If all the product sold between companies at a profit is disposed of by the purchasing company, then a reserve is not necessary. The sales and costs will be exaggerated but the gross profits will be correct. The following problem* illustrates all the points covered in the preceding discussion and many of the complexities of accounting for a consolidation.

10. Illustrative Consolidation Problem

Four corporations are controlled by one of the companies through stock ownership. They operate as separate concerns, buying and selling to each other and to outside parties. In preparing a consolidated balance sheet and profit and loss account the following is required for each company:

(a) First cost of product sold
(b) Intercompany profit on sales
(c) Stock on hand

Prepare statement showing above from the follow-

* Problem of Massachusetts C. P. A. examination, 1915.

ing: The combination consists of Companies W, X, Y, and Z. Company W purchases raw material and sells $20,000 to outside parties and $60,000 cost price to Company X for $66,000, leaving $20,000 on hand. Company X spends $34,000 in manufacture and ships over Company Y's railroad $70,000 to Company Z and $20,000 to outside parties. Company Z pays Company X $77,000 for the goods and pays Company Y freight $5,000 which cost the latter $3,500; expends $18,000 in manufacturing, and sells $70,000 worth of finished product to outside parties, leaving a balance on hand.

Solution: For the sake of brevity and clearness, let the consolidation of Companies W, X, Y, and Z be designated as "C" and be regarded as a unit. The answers required are not as clearly indicated as they might have been, and the solution below is based on the following assumptions:

(a) That by "cost of product sold" is meant both the cost shown on the books of the respective companies and also the net cost to C. Company Y "sells" transportation service.

(b) That intercompany profit on "sales" also applies to freight charges of the railroad company Y; that is, the profit shown on the books of the companies which is not a profit of C.

(c) That stock on hand is valued both at book cost and at cost to C.

It is also assumed that the sales to outside parties ($20,000 by W, $20,000 by X, and $70,000 by Z) are at *cost* price, according to the books of the respective companies. In the following tables the first column contains book costs and book profits, shown separately; the second, that portion of the amounts in the first arising from intercompany relations; and the third, net costs to C.

	Book Figures	Eliminations	C's Net Costs
Company W:			
Purchases from Outsiders	$100,000.00	....	$100,000.00
Sales to Outsiders	20,000.00	....	20,000.00
	$ 80,000.00	....	$ 80,000.00
Sales to X	60,000.00	....	60,000.00
Stock on Hand	$ 20,000.00	....	$ 20,000.00
Book Profit, on Sales to X	$ 6,000.00	$ 6,000.00	....
Company X:			
Purchases from W	$ 66,000.00	$ 6,000.00	$ 60,000.00
Manufacturing Labor and Expense	34,000.00	....	34,000.00
Cost of Goods Made	$100,000,00	$ 6,000.00	$ 94,000.00
Sales to Outsiders	20,000.00	1,200.00*	18,800.00
	$ 80,000.00	$ 4,800.00	$ 75,200.00
Sales to Z	70,000.00	4,200.00	65,800.00
Stock on Hand	$ 10,000.00	$ 600.00	$ 9,400.00
Book Profit on Sales to Z	$ 7,000.00	$ 7,000.00	....
Company Y:			
Sales of Freight to Z	$ 3,500.00	....	$ 3,500.00
Book Profit on Freight Sold to Z	$ 1,500.00	$ 1,500.00	....
Company Z:			
Purchases from X	$ 77,000.00	{$7,000.00 4,200.00}	$ 65,800.00
Freight Purchased from Y	5,000.00	1,500.00	3,500.00
Manufacturing Labor and Expense	18,000.00	....	18,000.00

	Book Figures	Eliminations	C's Net Costs
Cost of Goods Made	$100,000.00	$12,700.00*	$ 87,300.00
Sales to Outsiders	70,000.00	8,890.00	61,110.00
Stock on Hand	$ 30,000.00	$ 3,810.00	$ 26,190.00

With the foregoing working paper as a basis, the solution is obtained as follows:

(a)

Cost of Product Sold:	Book Cost	Cost to C
W	$ 80,000.00	$ 80,000.00
X	90,000.00	84,600.00
Y	3,500.00	3,500.00
Z	70,000.00	61,110.00
Total	$243,500.00	$229,210.00

(b)

Intercompany Profit on Sales:	Book Profits	Adjustments Because of Intercompany Relations To Deduct	To Add	Profits to C
On W's Sales	$ 6,000.00	$ 6,000.00	....	....
On X's Sales	7,000.00	11,200.00	$ 5,400.00	$ 1,200,00
On Y's Sales	1,500.00	1,500.00	....	....
On Z's Sales	....	....	8,890.00	8,890.00
Total	$14,500.00	$18,700.00	$14,290.00	$10,090.00

(c)

Stock on Hand:	Book Cost	Cost to C
W	$20,000.00	$20,000.00
X	10,000.00	9,400.00
Y	....	....
Z	30,000.00	26,190.00
Total	$60,000.00	$55,590.00

* The points to be noted in the preparation of the above tables are that 6% of the book cost of the goods made by X is because of W's book profit, and hence is not a cost to C; and similarly that 12.7% of the book cost of the goods made by Z is because of the book profits of W, X, and Y, hence is not a cost to C.

It is not to be understood that the total profit of C is only $10,090, or that C's total stock on hand is $55,-590; Y may have inventories, and no doubt all four companies have made profits on their sales to outsiders. A final point to note is that in making up a consolidated balance sheet for C, $4,410 should be deducted from the sum of the book inventories of W, X, Y, and Z; and in making up a consolidated profit and loss account for C, $4,410 should be deducted from the sum of the book profits (both gross and net) of W, X, Y, and Z.

11. Special Consolidation Points

For the purpose of completing the discussion of consolidations, a number of special points are covered below which frequently confront the accountant engaged on this class of work. It should be noted that the following statements represent the writer's opinion and are given without discussion because of the necessarily limited treatment that can here be accorded to so broad and complicated a subject. The reader is cautioned that the accounting procedure for consolidations is still in the stage of development and many of the assertions, though generally accepted as correct by accountants, do not necessarily coincide with legal decisions.

12. Working Capital Provided by Subsidiaries

Where a subsidiary company, in addition to turning over its stock or properties to a holding company, also provides cash for working capital, this cash is in reality a reduction of the price paid by the holding company and should be so treated on its books. Such working capital is assumed to be donated and therefore it cannot properly be treated as surplus of the holding company. To pay out such surplus in dividends would in effect be a distribution of capital.

13. Surplus and Dividends of Subsidiary

Surplus accumulated by a subsidiary company prior to the date of its acquisition by a holding company is not surplus of the holding company and should not be distributed as dividends by it.

The declaration of a dividend by a subsidiary company immediately upon the acquisition of its stock by the holding company, cannot be treated as income of the holding company. Here again the effect of such a dividend is to return to the holding company part of the purchase price.

The minority interest outstanding in any subsidiary company should be clearly stated on the consolidated balance sheet. Such interest should not appear as a part of the surplus or capital of the consolidated company. Outsiders will not regard the item as a liability to creditors if it is properly described as including a minority interest in the capital stock of the named subsidiary company and thus owning a proportionate share of the surplus applying thereto.

When the capital stock of a subsidiary company is acquired during the year by a holding company on the basis of the subcompany's balance sheet as at the first of the year, the accountant, in the absence of any indications of ulterior motives, may consider the subsidiary company's earnings from the first of the year to the date of the purchase as earnings of the consolidated company. In such a case it will usually be found that interest on the purchase price is paid for the period from the first of the year to the actual date of acquisition, and in a consolidated statement this interest should be treated as a partial offset to the accumulated earnings of the subsidiary company.

Where the earnings of a subsidiary company are insufficient to pay a dividend on its cumulative preferred stock, that fact should be clearly shown on the consolidated balance sheet; otherwise the entire surplus shown thereon would appear to be available for distribution to the stockholders of the holding company.

14. Advances to Subsidiaries

Advances to a subsidiary should either be eliminated on consolidation of the accounts or be shown on the holding company's balance sheet in such a manner as to indicate whether such advances (1) can be liquidated by the subsidiary out of current assets, (2) are absorbed in fixed assets, or (3) represent losses of the subsidiary.

15. Treatment of Minority Interests

Where the minority interests in a subsidiary company are substantial, the accounts of that subsidiary should be shown as separate statements supporting and amplifying the consolidated statements which include the accounts of the subsidiary company.

16. Treatment of a Subsidiary's Liabilities and Deficit

On the consolidation of the accounts all assets and liabilities should be shown "gross," i.e., the subsidiary company's assets and liabilities should appear on opposite sides of the consolidated balance sheet. It is not proper to show the net assets (assets less liabilities) of subsidiaries as the assets of the consolidation, omitting mention of the liabilities.

Any deficit of a subsidiary company existing at the date of acquisition should not be deducted from the accumulated surplus of other subsidiaries at that time. Earnings accumulated subsequent to acquisition by a subsidiary whose books show a deficit at acquisition should first be applied to the reduction of that deficit before these earnings are distributed as dividends.

A consolidated balance sheet should always include the accounts of *all* subsidiaries. To include some and leave out others invariably results in concealing the true state of affairs. Therefore a statement, to be correct, should either leave out or include *all* subsidiary accounts. The writer made an examination some time ago of a large New York corporation which controlled several subsidiary companies operating many different industries. The company had theretofore issued a statement headed "Consolidated Balance Sheet of A Company, Including B Company and C Company." Advantage had been taken of a technical subterfuge in the title. There were eighteen controlled companies in all. An extended investigation revealed the fact that the B and C Companies were the only profitable subsidiaries. The other companies showed a deficit more than sufficient to offset the surplus of the combined A, B, and C Companies.

REVIEW QUESTIONS

1. What are the arguments in favor of making a consolidated balance sheet for affiliated corporations?

2. What steps should be taken in preparing the statements of affiliated corporations for consolidation?
3. What disposition should be made of the earnings of subsidiary companies prior to consolidation?
4. When all of the capital stock of a subsidiary company is not owned, how should its surplus be stated on a consolidated balance sheet?
5. What are the dangers to be guarded against in eliminating intercompany profits on a consolidated statement of profit and loss?

Part V
Verification and Testing of the Accounts

CHAPTER XXIX *

ERRORS AND THEIR CLASSIFICATION

1. Introduction

So far as is known, there is no comprehensive literature on the subject of errors, although many of the points are touched upon in books on auditing.

Since to err is human, errors are found in every department of life, but probably in no other are they so immediately important and troublesome as in business accounting.

When the subject of errors in business accounting is considered, one naturally thinks of the professional auditor whose duty in part is to deal with such matters. These chapters on prevention, detection, and correction of errors, however, are not designed for him, nor will they indicate completely how one can become an auditor, although it is hoped that they may be of suggestive value to a professional auditor's assistants. They are designed primarily for proprietors, executives, and members of accounting and bookkeeping departments of business. Their purpose is to point out to such persons certain respects in which they can test the accuracy and completeness of their books of account.

The first three volumes of the set and the preceding chapters of this volume have fully discussed accounting

* Chapters XXIX to XXXIII inclusive were contributed by Mr. Greeley, the editor of "Business Accounting."

principles and the accounting terms for all balance sheet and income account items. The present discussion is concerned only with the procedures to be followed in the detection and correction of errors. To apply these procedures adequately, it will be necessary for the reader to have a thorough understanding of the other chapters in this volume and of the volumes which have preceded it in the set.

2. Prevention of Errors

The proverbial ounce of prevention is of great value in the accounting department and should receive serious consideration whenever employees are engaged or trained and whenever systems of accounts and business procedures are designed and installed. Despite the exercise of the utmost care in all of these respects, however, errors will continue to occur as long as the human element is employed in the conduct of business, and there is no present prospect of reducing the use of the human element to any material extent. Consequently, the detection and correction of errors is of more general interest than the prevention of them, and this chapter, therefore, rather briefly dismisses the latter topic.

There are two chief expedients employed to prevent errors. One is mechanical and the other is a matter of the organization of the human factors in the business. The first expedient is the use, wherever practicable, of office machinery. Such machinery is not limited to accounting devices, such as bookkeeping, adding and calculating machines, but includes many which are used in other departments but which indirectly affect the accounting department. The accounting department is, in fact, the nervous system of the business and nothing can happen anywhere in the business body which does not sooner or later register its influence through the accounting department. For example, time clocks to record time, mailing machines to record stamps, and typewriting or carbon devices to record sales, are obvious examples of mechanical means related more or less closely to the accounting department. Mechanical aids should be employed in every case where sound judgment indicates that their first cost, interest on the investment represented by them, and their cost of operation are likely to be less than the cost of clerical labor without them together with the cost of delays due to slower operation and the cost of detecting and correcting errors which will be unavoidable when the human brain alone is utilized.

3. Internal Checks

The other preventive expedient is known as the internal check. Upon the same principle that the more planks there are in a raft the harder it is to sink it, the more persons who check a transaction the more likely it is to be handled correctly. An internal check is the vouching or approval in whole or in part by one person within the organization of the work of another person within it. It is secured by making it one's duty expressly to approve another's work, or by so arranging the business routine that his own function cannot be satisfactorily performed if another errs in his work. The latter method is preferable, partly because pride in one's own work is the strongest incentive to insistence upon proper co-operation by others and partly because it obviates any irritation which might be caused by making it one's duty to correct or report another's error.

The following example of an internal check shows how the work of four employees can be interrelated for the protection of all of them and for the safeguarding of the business as a whole. In an instalment house, one clerk has the duty of opening a ledger account for each customer and noting on it the instalment terms. Remittances by customers are handled by a cashier who prepares a daily record of cash receipts, showing the amount received from each customer and the total for the day to be deposited. This record is then routed to the clerk who opened the ledger accounts and he posts the credits for the instalments received. As the amounts and due dates of instalments vary, he is likely to notice any errors by the cashier in listing the remittances. From this clerk the record is routed to a messenger who receives from the cashier the total indicated and deposits it in the bank. He then turns the record over to the general bookkeeper who verifies its addition and notes that the bank pass-book shows a deposit of an amount corresponding to the total appearing on the record.

4. Classification of Errors

Errors, however, cannot be entirely prevented and thus they must be controlled in the most masterful way practicable. The first step in the solution of any problem is a diagnosis or definition of the problem itself. Therefore, in dealing with errors it is desirable at the outset to classify them in order to see what general principles underlie their correction and what usual methods can best be employed in correcting them.

Since the fundamental object of account-keeping, as explained in Volume I, is to show two things, namely, the financial condition of a business and the changes in its condition since some preceding date, it follows that the most fundamental kind of error is one which results in a misstatement of either of these conclusions. As a matter of fact, a misstatement of either the financial condition at a given date or of the changes since a preceding one, necessarily involves a misstatement in both of them. Fundamental errors of this kind have been called errors of principle.

But errors may not be so fundamental in their effect. For example, one account receivable may be overstated and another understated by the same amount without any resulting misstatement of the financial condition of the business as a whole. Such errors may be more immediately troublesome and may ultimately be more costly than errors of principle. For the purpose of classification they may be called statistical errors.

Both errors of principle and statistical errors may be intentional or unintentional, and this classification is really the most fundamental one. In considering intentional errors, the motive underlying them is not important from an accounting point of view. In some cases the motive is fraudulent, as for example where an employee endeavors to conceal a defalcation or where a proprietor seeks to misrepresent his financial condition or his earnings. The question of the motive underlying an intentional mistake does not, however, affect the detection and correction of it.

Unintentional errors of both kinds may be due to one or more of three causes:

1. Failure to understand accounting principles
2. Failure to understand accounting technique
3. Carelessness

The following outline shows the classification of errors which has just been proposed.

1. Intentional errors $\begin{cases}\text{Of principle} \\ \text{Statistical}\end{cases}$
2. Unintentional errors $\begin{cases}\text{Of principle} \\ \text{Statistical}\end{cases}$
   (a) Failure to understand accounting principle
   (b) Failure to understand accounting technique
   (c) Carelessness

Errors have been classified also as those of omission and those of commission. It seems, however, that this classification is not fundamental, because the effects of an error and the means of detecting and correcting it are the same whether the error was reflected in a wrong entry or was occasioned by the failure to make any entry at all.

In addition, errors are sometimes classified as (1) errors of principle and (2) errors of technique. It is difficult to distinguish between the two, however, because many errors of technique result in the violation of accounting principles. If a classification along this line is desired, the following may be used:

1. Formal errors, which need correcting only to improve the accounting style of the entries.
2. Substantial errors, which are either a correct expression of a wrong idea or an incorrect expression of a right idea.

Neither of these classifications, however, seems as helpful as that given in the above outline.

5. Examples of Errors

The following errors are illustrative and serve to exemplify the headings used in the foregoing classification:

Intentional Error of Principle

1. Charging building additions to Repairs to understate the earning power in order to induce a stockholder or other proprietor to dispose of his interest.
2. Charging Discounts and Allowances instead of Cash with money received from customers in order to cover a defalcation.

Intentional Statistical Error

1. Charging the wrong member of a club for house charges in order to favor a member who should have been charged. (If the latter's account were known to be worthless, this would be an error of principle.)

Unintentional Error of Principle

Failure to understand accounting principles:

1. Crediting to principal the entire proceeds of a sale of bonds by a trustee which includes accrued interest, instead of crediting the accrued interest to income.
2. Failing to amortize the cost of office alterations over the life of a short-term lease.
3. Crediting Sales with merchandise shipped on consignment.

4. Crediting to income flat water rates collected in advance by a municipality.
5. Charging to expense dividends paid by a corporation.

Failure to understand accounting technique:

1. Writing off bad debts by charging them to Suspense without closing the latter into Profit and Loss, thus leaving the accounts as assets.

Carelessness:

1. Posting to an asset account instead of to an expense account, or vice versa.

Unintentional Statistical Error

Failure to understand accounting principles:

1. Crediting notes receivable discounted to Notes Receivable, instead of to a new account entitled Notes Receivable Discounted.

Failure to understand accounting technique:

1. A corporation having a sinking fund for bonds and desiring to pass all payments through the voucher register, at the end of the year entered a voucher for the sinking fund instalment. The result was a debit to Sinking Fund and a credit to Accounts Payable. The check in payment of the voucher, however, was not drawn until after the close of the year. The resulting error was an overstatement of cash in the sinking fund and

an overstatement of the accounts payable.

2. A similar error would occur if interest on treasury bonds was accrued, because it would result in an overstatement of both the income and the expense of Interest.

Carelessness:

1. Charging or crediting the wrong asset or liability account or the wrong income or expense account.

6. Necessity for Correction

It might, perhaps, be assumed that the advisability of correcting errors is obvious. Nevertheless the most serious dangers which result from failure to correct errors in each kind of business organization are noted herein, because in some cases business men and those in their employ have been found to neglect the correction of errors on the ground that they were immaterial. In this discussion matters of fraud and defalcation are excluded because the penalties for them are generally known in advance. In cases of that kind the person responsible for the error makes it deliberately in the hope that it will escape detection. Errors which are not fraudulent, however, should nevertheless be promptly and carefully corrected; some of the dangers resulting from the failure to make corrections are noted in the following sections.

7. Errors in a Sole Proprietorship

An intentional error in principle might result in the loss of credit at a bank or even in the prosecution of the offender for a crime. In some states it is a penal offense to make a false entry or a false statement from books of account for the purpose of misleading anyone. There are, also, penalties under the state and federal income tax laws for intentional errors in the statement of financial condition or earnings.

When a sole proprietor makes an intentional statistical error, he runs the risk of fooling himself, if he forgets the error and fails to adjust it, when he wants the exact facts of his financial condition or earnings and expense items.

An unintentional error of principle or an unintentional statistical error from whatever cause is likely to result in the dangers or penalties listed above, except for personal penalties which depend upon the intentional character of the act. In addition, an unintentional error may involve a substantial cost to correct it and a loss of money or business if customers or creditors are affected. When future bids or budgets are based on erroneous figures, a loss of business or of profits frequently results.

8. Errors in a Partnership

Errors of all kinds in a partnership have substantially the same results as similar errors in a sole proprietorship, but there is an added danger of costly litigation by partners and even of an involuntary dissolution of partnership. An error might result also in an unwarranted overdraft by one partner which the other partners might not be able to recover or might fail to detect and thus experience a substantial loss, whether known or unknown.

9. Errors in a Corporation

Special care should be exercised in keeping the accounts of a corporation. Uncorrected errors may involve the same consequences as in the sole proprietorship, with the additional risk of personal liability imposed on directors if the capital is impaired. Actions at law by creditors or by stockholders may result from errors. There is also the possibility of an action by the attorney general of the state to dissolve the corporation. As corporation taxes are higher and more complicated than those for individuals and partnerships, the dangers of over- and under-payment are increased.

10. Summary

Errors, therefore, may be classified as intentional or unintentional and may result in misstatements of financial condition or earnings or in erroneous statistics of the business. Regardless of its cause, an error of any kind should be corrected at the first opportunity in order to avoid the dangers noted above. Chapter XXXIII is concerned with the methods of correction, but before errors can be corrected they must be discovered. Consequently the next three chapters deal with methods of detecting errors.

REVIEW QUESTIONS

1. What is meant by internal check?
2. Which classification of errors do you find most helpful?
3. Are fraudulent errors always errors of principle?
4. Should a partner insist upon the correction of errors?
5. What dangers threaten a corporation which fails to correct errors in its accounts?

CHAPTER XXX

DETECTION OF ERRORS BY BUSINESS EXECUTIVES

1. Functions of Executives

An executive in any line of business endeavor has three functions to perform: he must organize, deputize, and supervise. To organize means to plan the procedures for all usual transactions and to provide for the handling of unusual ones. To deputize means to select a suitable person to carry on each step of each procedure and to delegate authority to him to do the necessary things. To supervise means to examine critically the work of all persons selected and deputized to carry on the work of the organization.

It is a remarkable executive who is equally proficient in all three functions. Most persons excel in some one of them only, for which there is a natural reason; namely, that the highest performance of each function depends upon qualifications different from those required in the other functions. Organization work demands a constructive, imaginative faculty; selecting and deputizing employees requires keen judgment of human nature and a considerable knowledge of vocational placement; proper supervision demands a critical faculty.

The discussion of the second function of an executive would be beyond the scope of these chapters. The first function, that of organizing, so far as the prevention of errors is concerned, is exercised in establishing internal checks to which reference is made in Chapter XXIX. The present chapter deals with the third function and points out some of the ways by which errors can be detected through executive supervision.

2. Limits of Executive Supervision

The very words "executive supervision" suggest a limitation on the exercise of this function in the detection of errors. Executive work is not detail work and supervision necessarily implies examination of work done by some other person. Hence it follows that the detection of errors by means of an audit or of a detailed inspection of the accounts is not accomplished by executive supervision. Executive supervision means scrutinizing employees' work to test its correctness. Errors in accounts are discovered by executive supervision when they are revealed by an examination of trial balances, statements, and other data prepared by the bookkeeping or accounting department. A business executive should endeavor at all times to apply the test of reasonableness to figures presented to him; the following sections indicate the principal means by which this can be accomplished.

3. Predetermined Percentages

Probably the most practicable single expedient for testing figures is the use of predetermined percentages. When a normal business has been in operation for a number of years, future operating results and relationships between assets and liabilities can be forecast almost with certainty by applying to estimates of future business certain significant percentages fixed through experience. When, later, figures are presented to show the actual results in a current year, they should be tested by the predetermined percentages, and if they do not stand the test, investigation should immediately be made to ascertain the reason for their deviation from normal. If the figures are incorrect, such an investigation would disclose it.

4. Percentage of Gross Profit

The simplest percentage test is that of gross profit. Gross profit being the excess of selling price over the cost of goods sold, should not vary to any considerable extent except with the volume of sales. Therefore, if the reported gross profit for a current fiscal period is an unusual percentage of sales, the figures should be verified. Care should be exercised in applying this test to compare like or similar periods. If the business is a seasonal one, a comparison should normally be made between the same months of different years rather than between one month and the month which immediately follows:

5. Basis of Percentage of Gross Profit

The percentage usually employed shows the relationship between gross profit and sales. One might immediately inquire why gross profit is not related to the cost of goods sold instead of to the selling price. When one invests money in stocks or bonds and subsequently realizes a profit through sale, he relates his profit to his investment; that is, to the cost and not to the selling price. For example, if he buys a bond for \$900 and sells it for \$1,100, he has made a gross profit roughly of \$200, which he considers one of 22%. Now, if instead of buying a bond he buys merchandise, why should he consider his profit to be 18%?

Retail merchants usually relate their gross profits to sales because it is somewhat more convenient. It is easier to use the known quantity, sales, as 100% and subtract from it the percentage of gross profit, than to consider the known quantity, sales, as 100% plus a percentage of gross profit.

The basis on which percentages are to be calculated should be fairly constant and it might be thought therefore that the cost of goods sold would be better than sales for the base to which to relate the gross profit because cost may be thought to fluctuate less than sales. Leaving aside peculiar kinds or instances of retailing which may be classified as somewhat speculative, the same laws of supply and demand which control the wholesale price control also the retail price. The fact that retail prices of standard articles of common use are subject to economic law and do not fluctuate widely has been demonstrated by the Harvard Bureau of Business Research. In its Bulletin No. 1, issued October 30, 1913, it states that over 600 shoe retailers in 26 states and in two foreign countries have furnished the bureau actual figures from their own businesses. Upon these figures the Bureau was able to reach the following conclusions as to gross profits, all percentages being reckoned upon the selling price: "The Bureau is inclined to think that under present conditions the typical gross profit on shoes retailing at or under \$3.50 will be found to run from 23% to 25% and for those retailing above that price a percentage of from 30% to 33% is the type." In other words, in normal business the selling price is quite as safe a base to which to relate gross profits as is the cost of goods sold.

6. Additional Uses of Gross Profit Percentage

The executive can use the percentage of gross profit not only to test the accuracy of the amounts reported as gross profit, but also to test estimates of inventory at times when no actual inventory is taken. The books of the average retail merchant do not and could not conveniently show currently the inventory of goods on hand. Yet it may be important to know the inventory at least approximately at certain times when taking an inventory would be either impracticable or impossible. For instance, it may be necessary to establish the value of merchandise destroyed by fire at a time when the actual inventory was not known. Also it may be desirable to estimate the profit or loss for short periods between times of stock-taking. In both of these cases the executive can test the accuracy of estimated inventories by means of the gross profit percentage.

An estimated inventory can be tested in the following manner: By subtracting from sales the estimated amount of gross profit assumed to be at the same rate as during a preceding similar period, the estimated cost of goods sold is determined. The estimated inventory should be the amount secured by subtracting the estimated cost of goods sold from the sum of the last actual inventory and the purchases thereafter.

7. Example of Inventory Test

Assuming the sales to be $24,824.67, the rate of gross profit 30%, the opening inventory $1,986.95, and the purchases $17,863.88, the present inventory could be estimated in this way:

Inventory at beginning of period		$ 1,986.95
Purchases during period		17,863.88
Total Merchandise available for sale		$19,850.83
Deduct—Estimated Cost of Merchandise Sold:		
Sales	$24,824.67	
Less—Estimated Gross Profit, 30%	7,447.40	17,377.27
Estimated Inventory at close of period		$ 2,473.56

8. Percentage of Turnover

The turnover of merchandise stock may be defined as the use of it in trade or exchange; that is to say, it is the selling of the merchandise and the converting of it thereby into accounts and notes receivable and cash. Turnover is sometimes called "stock turn." The object of a merchant is to make this turnover or stock turn by selling his merchandise at a price higher than its cost, thus realizing a profit. Such profit is known as gross profit because the expenses of making the turnover must be considered before determining final or net profit.

It is customary to state the turnover in percentage terms but unless the percentage is correctly calculated it is misleading to the executive. Since turnover is the use of merchandise through the selling of it, we must compare the inventory (merchandise available for sale) with the sales (merchandise which has been sold). In this comparison we must use not the amount realized on sales but the cost of goods sold, because inventories are (or should be) stated at cost, and comparison should be made only between like elements.

There are differences of opinion concerning the determination of the inventory to be used in the comparison. Some persons use the inventory at the beginning of the period but it is believed that an average inventory during the period should be determined and used. An average inventory is considered a more representative figure because the beginning inventory is usually the result of actual stock-taking and is likely to be lower than the average, inventories being taken when stock is low in order to reduce the cost and inconvenience of taking them.

The turnover should be stated as a percentage of the average inventory on hand during the period. This percentage is determined by dividing the cost of goods sold by the average inventory. For example, if the cost of goods sold was $3,000 and the average inventory was $2,000, the turnover would be 150%. For convenience it is stated as 1.5; in other words, the stock has been turned over one and one-half times.

The business executive should appreciate the real significance of turnover. Many of the expenses of making the turnover are fairly fixed in amount and depend chiefly upon the element of time. Examples of these are rent, wages payable on a time basis, depreciation, heat, light, power, taxes, insurance, and interest on borrowed capital. Such expenses continue from day to day regardless of the volume of sales.

The turnover must be made, therefore, as quickly as possible so that the general expenses to be deducted from gross profit will be relatively low. If the same amount of goods which was sold in six months could have been sold in five months, the gross profit would have been the same but the net profit would have been greater. Another result of the quick turnover of stock is that money secured thereby becomes available for the purchase of new stock without the necessity of borrowing or investing more money.

The following illustrates the calculation of turnover:

In a retail shoe store the average gross profit was 25% of the selling price. The sales during the six months ended June 30, 1919, were as follows:

January	$ 6,447.98
February	9,692.73
March	14,200.03
April	11,772.95
May	11,013.64
June	10,670.15

Following were the inventories at the dates given:

January 1	$62,520.72
February 1	64,672.96
March 1	67,349.64
April 1	67,900.37
May 1	67,002.09
June 1	66,880.87
July 1	64,230.45

What was the average turnover of the stock during the six months' period?

The cost of goods sold during the six months is estimated by taking 75% of the total sales. The average inventory during the period is calculated by finding the average for each month (obtained by dividing by 2 the sum of the inventories at the beginning and at the end of each month) and dividing the total of these averages by six. The cost of goods sold is then divided by the average inventory and the turnover is approximately 73%.

9. Other Percentages

In testing figures by the use of percentages, a business executive is not limited merely to the percentage of gross profit and percentage of turnover. All expenses may be related to the volume of business done to test the reasonableness of subsequent expense figures. The following example illustrates the use of predetermined percentages for various expenses:

Assuming the sales for 1918 to have been $465,500 and for 1919 to have been $390,750, the executive desires to test the reasonableness of the expense figures for 1919. The corresponding items of expense are as follows:

	1918	1919
Materials	$265,335.00	$230,500.00
Direct Labor	108,228.75	78,500.00
Indirect Labor	8,379.00	6,725.00
Factory Expense	26,999.00	27,500.00
Trading Expense	20,947.50	23,500.00
Office Expense	11,637.50	10,500.00

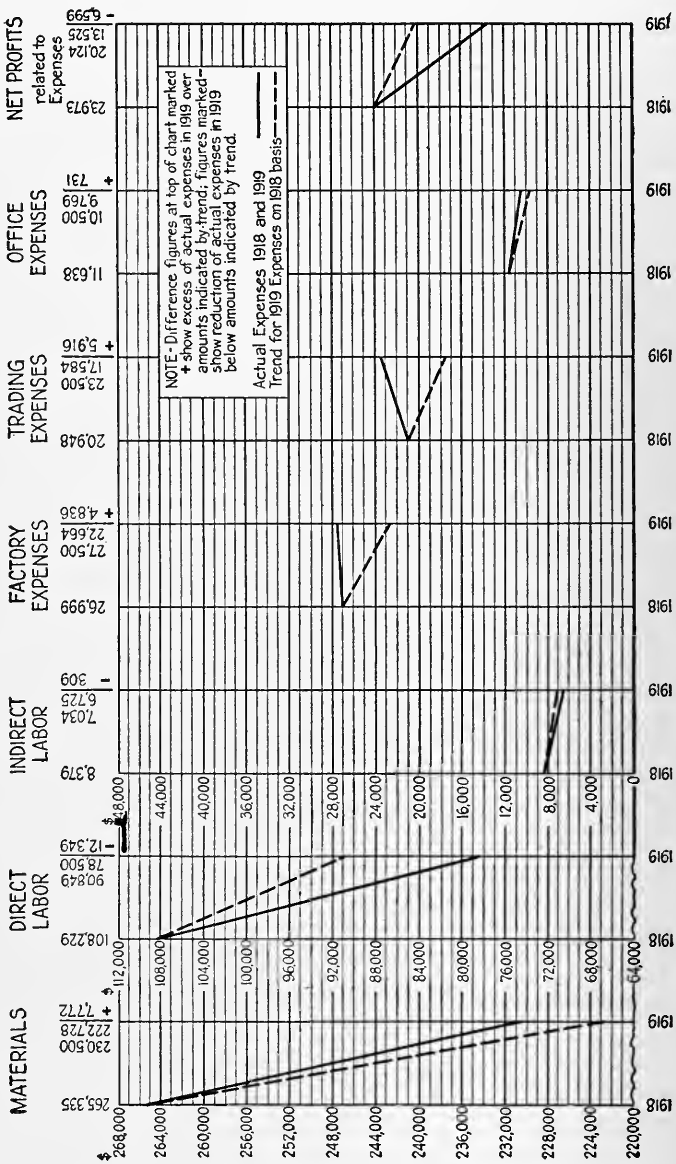
A comparison of the dollar amounts of each expense would serve no purpose. Since there has been a decrease in the volume of sales in 1919, some of the expenses of that year should naturally be less than similar expenses in 1918 when the sales were greater. The only comparison which would assist in the administrative control would be one in the light of the volume of sales.

A true comparison to test the reasonableness of the 1919 figures could be made in the following manner: The decrease in sales was $74,750, or 16.058% of the 1918 sales. If the net profits had decreased proportionately with the decrease in sales there would have been a decrease of 16.058% of net profits of 1918 ($23,-973.25), or $3,849.63. In other words, the portion in dollars and cents of the decrease in net profits due to reduced sales is $3,849.63. The remainder of the decrease in net profits must be due to increased expenses. Therefore the next step is a comparison of the reported expense items in 1919 with the amounts which they would have been if they had been reduced proportionately with the decrease in sales.

Since there has been a decrease in sales of 16.058%, a corresponding decrease in expense items would make each 1919 item 83.942% of the similar one in 1918. A comparison of the reported items with the 1918 amounts as proportionately decreased will indicate the reasonableness of the 1919 figures and will show that the decrease in net profits due to increased expenses is $6,598.-62. Adding the two elements or portions of decrease gives the total decrease in net profits of $10,448.25.

10. Graphic Statements

For the busy executive any means for testing the reasonableness of figures must be readily available and must be such as to call his attention to possible errors with the least chance of their escaping his notice. Thus, the manner of testing figures becomes exceedingly im-



Form 4. Graphic Comparison of Expenses

portant. To some executives the graphic method presents effectively many fluctuations which would not be readily apparent in a statement of figures. One will frequently notice the peaks and valleys in a curve when he may overlook fluctuations in a tabular statement of figures. The principles underlying the preparation of curves and other graphs have been outlined in Volume III of "Business Accounting," to which reference should be made. It will be found practicable usually to have a confidential secretary or other trained employee prepare graphs currently to indicate the probable trend of expenses and other significant figures and then to note on the curve the actual reported figures so that the executive can see at a glance whether the figures appear to be reasonable.

Form 4 shows in graphic form the comparison of the 1919 expenses with the amounts which might have been expected from the change in the volume of business done, using the figures in the example stated in § 9.

11. Casual Scrutiny

Some executives have a natural aptitude for carrying the essential details of their accounting and financial transactions in their minds, and thus by a casual scrutiny can determine the reasonableness of figures. As an aid in such inspection, substantial changes in assets or liabilities, which must necessarily be reflected elsewhere in financial statements, should be noted. It frequently is helpful for the executive to keep, or have his secretary or other confidential employee keep for him, a memorandum recording all of the substantial changes in financial condition which should be reflected in subsequent reports prepared for him by the bookkeeping or accounting department. By means of these tests errors are often discovered without the necessity for an audit or a detailed inspection of the accounts.

REVIEW QUESTIONS

1. What are the three functions of an executive?
2. How is the percentage of gross profit usually calculated?
3. How can the total of an inventory be tested?
4. What is turnover and why is it important?
5. How can graphic charts be employed to aid in executive supervision of accounts?

CHAPTER XXXI

DETECTION OF ERRORS BY BOOKKEEPING DEPARTMENT

1. Introduction

Since errors will occur despite every preventive measure which can be adopted and enforced, it is highly desirable that the persons who make the errors detect them before they affect the work of any other person or department of the business. Accordingly the bookkeeping department should go to every reasonable length in checking its work so that no errors will be discovered in statements or accounts prepared or kept under its supervision. This chapter is concerned with some of the methods whereby the bookkeeping department can check the accuracy of its own work.

2. Kinds of Mistakes to be Expected

The kinds of errors which would ordinarily be detected by the bookkeeping department are usually not those which would attract the attention of the executives of the business. The errors which the bookkeeping department can reasonably be expected to detect and correct consist principally of unintentional errors, either of principle or of a statistical nature, resulting from any of the three causes noted in the classification of errors in Chapter XXIX. Intentional errors ought to be detected and corrected, provided, of course, that the individual who is responsible for the detection is not the person who made the error. For example, if the head of the bookkeeping department was an embezzler, he could hardly be expected to correct the errors in the accounts whereby he hoped to conceal his defalcations. Similarly, if instead of being a defaulter he was interested in falsifying the operating results of the business to benefit one or more persons whose interests would be affected, he could not be expected to reverse the intentional wrong entries which he originated. Intentional errors on the part of any person other than the one who is responsible for the detection of errors should, of course, be detected before they are allowed to affect any other individual or any other department of the business.

3. Trial Balance Differences

Probably the most common kind of clerical error is a mistake resulting in a trial balance difference. When such a mistake has been made, the preparation of a monthly or other trial balance cannot be completed. The importance of having the accounts in balance results from the fact that if there is a "difference" there is no way of knowing whether it is the result of one error which might be insignificant, or the composite result of many errors some of which might be vital. Most of the trial balance difficulties which have come under the writer's notice have been the result of more than one error. It is unwise, therefore, to ignore an unlocated error in a trial balance except as a last resort, and then it should be done only with the approval of the executives of the business.

4. General Rules for Locating Differences

Since the object of a hunt for the trouble which caused a trial balance difference is its quick discovery, it is obvious that no rules of procedure need be applied if the memory or ingenuity of the bookkeeper enables him to locate it without an orderly search. When, however, that cannot be done, it is undeniable that an orderly procedure will result in the discovery of the error more readily and with much more certainty than a haphazard method of indiscriminate checking.

The first general rule is to make a note of the exact amount of the difference. This should be entered at the top of a sheet of paper which we may call the difference sheet and which should have enough space to provide room for adjustments of the difference in case it should be discovered to result from more than one mistake. If this difference sheet is not used in an orderly and precise way, the difference may be located without the bookkeeper's realizing the fact and he may uselessly search for further mistakes when none exist.

The next general rule of procedure is to ascertain that the trial balance itself is correctly added and that the balances of the controlling accounts are in agreement with their subsidiary ledgers.

The trial balance should then be scanned for any apparent omissions of accounts or for any balances which appear to be on the wrong side. Frequently an account is omitted from the trial balance because it is put in an unusual place in the ledger, as for example one of the back pages which are ordinarily unused. If the foregoing general rules do not indicate the source of the error, then the following procedure should be followed, subject of course to any modifications which may seem desirable in a particular case.

5. Specific Rules for Locating Differences

1. The following tests should be applied to the trial balance difference:

(a) If the difference is a round amount, such as 1 cent, $10, or the like, the error is probably one of addition or subtraction.

(b) If the difference is 9 or a multiple of 9 up to and including 81, the error is probably a transposition of figures. This holds true whatever places the difference may occupy; there may be a transposition in the 1-cent and 10-cent columns, or in the $1 and $10 columns, or other two adjoining columns.

(c) If the difference is divisible by two, it may have been caused by posting on the wrong side an item of one-half of the difference.

2. If the application of the foregoing tests indicates the nature of the difference, the next step is to look in the most likely place for the error indicated. If the error may have been one of addition or subtraction, the smallest additions and subtractions should be examined first, because more mistakes are made in small arithmetical operations than in the more difficult ones. This is probably due to the fact that when an addition or subtraction is small, the mind is not applied to it with the same concentration that is used on complicated work. An error is much more likely to occur in adding two figures, such as 893 and 641, than in adding a column of ten or twelve figures.

If a rapid inspection of the small additions and subtractions does not disclose the error, then all ledger accounts should be footed, the correctness of balances should be ascertained, and the posting of balances to the trial balance should be verified.

If the nature of the error is indicated as a transposition, the posting to the trial balance of all figures the transposition of which might have caused the particular error should be verified. If the difference is 18, this may be caused by the transposition of digits which differ from each other by 2 (18 being the second multiple of 9), and all possible combinations of digits which differ from each other by 2 should be listed. Such a list, for example, would be:

02	written	as	20
13	"	"	31
24	"	"	42
35	"	"	53
46	"	"	64
57	"	"	75
68	"	"	86
79	"	"	97

After the posting of the balances from the accounts to the trial balance has been checked, the next step would be to check the postings of similar figures from the books of original entry into the ledger accounts, care being taken to check-mark each posting so verified, in order that it may be identified.

3. The next step should be to scan the folio columns of the books of original entry to ascertain whether any entry has not been posted. The ledger accounts should then be examined to see whether any account has been ruled off without bringing down its balance, or whether

an account has been closed but not ruled off so that its former balance was used in error.

4. If the error has not been disclosed by the preceding tests, the next step should be the completion of the checking of balances on the trial balance, and if that does not disclose the mistake, then the footings of all ledger accounts which have not previously been verified should be checked. At the same time the correctness of the balance of each account should be ascertained, particular attention being paid to accounts some of whose debits and credits exactly offset each other. An example of the latter kind of account is Sundry Accounts Receivable, where the practice is generally to debit the account with small sales to customers, showing each customer individually and entering the credits opposite the debit items to which they relate.

5. A further step is to ascertain that the books of original entry are in balance; that is, that all the debits from each book of original entry equal in amount all the credits from the same book. Where a book with many distribution columns is used, mistakes frequently are made in cross-footing the totals so that the total credit, for example, which will be represented usually by one figure, does not exactly equal the total debits which may be represented by a dozen or more figures.

6. The verification of all postings from the books of original entry to the ledger should then be completed. Some postings will already have been checked but if they were correctly marked they should cause no confusion.

7. If now the difference has not been located and the bookkeeper feels confident that a repetition of all

the processes previously followed will not locate it, the last resort is to analyze the ledger.

6. Analysis of the Ledger

An analysis of the ledger is a tabulation made from each account of all the items in it which were posted from each book of original entry, the debits being classified separately from the credits. After these items have been so classified, the total debits posted from each book of original entry should equal the total credits posted from the same book. If these totals are not equal the error will be localized and one or more books of original entry will be eliminated from the search.

The analysis of a ledger is a simple matter, provided the method is thoroughly understood, and the following simple problem is presented to illustrate it:

CASH

Jan. 1 J	$ 557.84	Dec. 31 C	$3,370.24
Dec. 31 C	3,642.15		

MERCHANDISE INVENTORY

Jan. 1 J	$1,293.46		

CAPITAL

		Jan. 1 J	$2,241.36

DRAWING ACCOUNT

Dec. 31 C	$ 998.73	Dec. 31 C	$ 125.60

PURCHASES

Dec. 31 V	$2,011.52		

ACCOUNTS RECEIVABLE

Jan. 1 J	$1,142.96	Dec 31 C	$3,017.89
Dec. 31 S	4,096.32	Dec. 31 J	369.74

Accounts Payable

Dec. 31 C	$2,169.57	Jan. 1 J	$ 752.91
		Dec. 31 V	2,313.50

Sales

Dec. 31 J	$ 369.74	Dec. 31 C	$ 488.66
		Dec. 31 S	4,096.32

Expense

Dec. 31 V	$ 301.98		
Dec. 31 C..............	201.94		

A trial balance of the above accounts shows that the debit side exceeds the credit by $9.99. The analysis of the above ledger is shown below:

ANALYSIS OF

Classification of Debit Entries

	Opening Debit Balance	Journal	Cash Book	Sales Book	Voucher Register	Closing Credit Balance
Cash	$ 557.84	....	$3,642.15	....	....	....
Accounts Receivable	1,142.96	....	....	$4,096.32	....	....
Merchandise inventory	1,293.46	....	....	....	....	....
Accounts Payable	....	....	2,169.57	....	....	$ 896.84
Capital	....	....	....	....	....	2,241.36
Sales	....	$ 369.74	....	....	....	4,215.24
Drawing Account	....	....	998.73	....	....	....
Expense	....	....	201.94	....	$ 301.98	....
Purchases	....	....	....	....	2,011.52	....
Totals ...	$2,994.26	$369.74	$7,012.39	$4,096.32	$2,313.50	$7,353.44

7. Method of Analysis

Each account should be noted in the stub on the left side of columnar paper. One column should be assigned to each of the classifications shown in the accompanying chart, the debit columns being grouped at the left and the credit columns at the right.

Classification of Debit Entries
- Opening debit balance
- Journal
- Cash book
- Sales book
- Voucher register
- Closing credit balance

LEDGER

Classification of Credit Entries

Opening Credit Balance	Journal	Cash Book	Sales Book	Voucher Register	Closing Debit Balance
....	....	$3,370.24	....	....	$ 829.75
....	$ 369.74	3,017.89	....	....	1,851.65
....	....	....	....	....	1,293.46
$ 752,91	....	....	....	$2,313.50	....
2,241.36	....	....	....	....	....
....	....	488.66	$4,096.32	....	....
....	....	125.60	....	....	873.13
....	....	....	....	....	503.92
....	....	....	....	....	2,011.52
$2,994.27	$369.74	$7,002.39	$4,096.32	$2,313.50	$7,363.43

Classification of Credit Entries
- Opening credit balance
- Journal
- Cash book
- Sales book
- Voucher register
- Closing debit balance

In entering the figures in their proper columns, only the total of the debit entries posted from each book of original entry and the total credit entries need be entered. But if the accounts are long and complicated, with many items from each book of original entry, it is advisable to allow more than one line for each account and to enter each item in detail. Enough space should be allowed to insure a clear and legible analysis.

From the above analysis it appears that the opening debit balances were 1 cent less than the opening credit balances; hence the opening entries should be verified. In this case we will assume that the merchandise inventory was understated and that the amount should have been $1,293.47.

The analysis shows that the credits posted from the cash book are $10 less than the debits. An examination of the cash book would confirm this and would disclose either an error in posting from the cash book or an error in the cash book itself. In this case we will assume that the cash sales were improperly entered in the cash book and that they should have been $498.66.

Since the analysis discloses an excess debit of $10 and an excess credit of 1 cent, it follows that the closing credit balances are $9.99 short of the closing debit balances, which is the difference in the trial balance. The analysis localizes the mistake to the opening balances and to the posting from the cash book. Thus, while it does not disclose the specific errors, it localizes them so that they can be discovered very much more quickly than if they were searched for throughout all the books of account.

8. Articulation Statement

An articulation statement is one in which the figures are so arranged that the account debited and credited with each figure is shown by posting the figure in one square. Reading to the left of the square the name of the account in the left-hand margin is that to which the item was debited, and reading upwards the name of the account at the top of the column is that to which the amount was credited. Continuing the facts used in the illustration above, after correction of the mistakes and the addition of the closing entries, the following articulation statement can be prepared.

This statement shows in simple form to what account each amount was debited and to what account it was credited. For example, the returned sales of $369.74 were entered but once on the statement and are shown by reading upwards to have been credited to Accounts Receivable and by reading to the left to have been debited to Sales. Each transaction noted on the statement can be read in the same manner.

The practical usefulness of an articulation statement is problematical. Certain state boards of C. P. A. examiners have in the past required the preparation of articulation statements from facts very much more complicated than the simple illustration used herein, and

ARTICULATION

	Opening Debit Balance	Cash	Accounts Receivable	Merchandise Inventory	Accounts Payable	Capital
Opening Credit Balances ...	....	....	....	....	$ 752.91	$2,241.36
Cash	$ 557.84	....	$3,017.89	....	....	....
Accounts Receivable	1,142.96	....	....	....	....	....
Merchandise Inventory ..	1,293.47	....	....	....	....	....
Accounts Payable	....	$2,169.57	....	....	....	....
Capital	....	....	....	....	....	....
Sales	....	....	369.74	....	....	....
Drawing Account	....	998.73	....	....	....	....
Expense	....	201.94	....	....	301.98	....
Purchases	....	....	....	....	2,011.52	....
Profit and Loss	....	....	....	$1,293.47	....	1,416.33
Closing Debit Balances ...	....	829.75	1,851.65	1,000.00	....	....
Totals ...	$2,994.27	$4,199.99	$5,239.28	$2,293.47	$3,066.41	$3,657.69

those persons planning to take such examination should have an understanding of this type of statement. In the business world it is possible that an articulation statement could be of use in presenting to a comptroller or other executive a brief summary of a year's transactions, or in presenting statistically in compact form the result of many transactions.

9. Current Tests

Various schemes have been proposed for the current checking of bookkeeping work, but the practicability of most of them is doubtful. It generally requires more

STATEMENT

Sales	Drawing Account	Expense	Purchases	Profit and Loss	Closing Credit Balance	Totals
....	....	....	....	....	....	$ 2,994.27
$ 498.66	$ 125.60	....	....	....	....	4,199.99
4,096.32	....	....	....	....	....	5,239.28
....	....	....	....	$1,000.00	....	2,293.47
....	....	....	....	....	$ 896.84	3,066.41
....	873.13	....	....	....	2,784.56	3,657.69
....	....	....	....	4,225.24	....	4,594.98
....	....	....	....	....	....	998.73
....	....	....	....	....	....	503.92
....	....	....	....	....	....	2,011.52
....	....	$ 503.92	$2,011.52	....	....	5,225.24
....	....	....	....	....	....	3,681.40
$4,594.98	$ 998.73	$ 503.92	$2,011.52	$5,225.24	$3,681.40	$38,466.90

time to prove the correctness of postings than can be spent on such work. It is desirable to take trial balances as frequently as practicable; sometimes they may be taken twice a month instead of monthly. Each bookkeeper should use his ingenuity in trying to detect errors before the end of the month. One test which should always be applied is that of the reasonableness of the figures. When figures appear to be wrong from their amount, or from their position as debits or credits, or from the account in which they are entered, it is advisable to verify them at once without waiting for a trial balance to disclose a possible error. Many such mistakes would not be disclosed at all by a trial balance because of the limitations of that bookkeeping expedient, as described in Volume I of "Business Accounting."

REVIEW QUESTIONS

1. Should a trial balance "difference" if small be ignored or arbitrarily adjusted?
2. Outline the general procedure to be followed in locating the errors which caused the difference.
3. Prepare a list of all digits the transposition of which might have caused a difference of 54.
4. What is an analysis of a ledger and when should it be made?
5. What is an articulation statement and what purposes does it serve?

CHAPTER XXXII

VERIFICATION OF ASSETS AND LIABILITIES

1. Facts vs. Opinions

The two preceding chapters suggest means by which executives and bookkeepers can detect errors in statements and accounts. A final test, however, should be applied in all cases where figures purport to reflect facts rather than opinions. The test should be the verification of the existence of the fact itself. As explained in Volume I, Chapter XI, many items in balance sheets and statements of profit and loss represent opinions, but some of them represent facts, such for example as the amount of cash in hand and on deposit, and the cost value of the merchandise inventory. All figures showing facts as to assets should be finally tested for accuracy by a verification of the asset itself. If that test is not applied, the figures may seemingly be correct but may actually be entirely misleading in that the assets which they appear to represent may have no existence in fact.

2. Fundamental Steps in Verification

The process of verifying or auditing accounts or statements of assets and liabilities, whether applied by a business executive, a bookkeeper, or a professional auditor, necessarily involves two fundamental steps:

1. A verification of the ledger account.
2. A verification of the existence of the asset or liability represented by the account.

It would be difficult to state which of these two is more important in practical application. While it is essential that asset accounts should not be overstated or understated, and that all liabilities should be listed to show the true obligations of the business, it is equally essential to ascertain that the business actually possesses the assets and owes the liabilities reported.

The following actual experience would have been amusing had it not been serious in its consequences. A business desired to borrow money and presented its balance sheet to the prospective creditor. He made a most painstaking examination of the accounts from which it was prepared and satisfied himself that all fixed assets were correctly listed at cost, less a reasonable depreciation. After a scrutiny of the current assets and the liabilities, he made the loan, only to discover that a considerable part of the machinery had been fraudulently removed before he was invited to lend his money. The machinery account was correct except for the rather important detail that the machinery on hand was very much less than the value called for by the account. The creditor had failed to take the second fundamental step of verifying the existence of the asset.

3. Verification of the Account

The verification of an account requires two processes. First, the account must be examined to ascertain whether or not all accounting principles involved have been correctly applied. Second, the arithmetical accuracy of the account must be established. Both of these steps must be taken to insure a complete verification.

An account (or any figures prepared from it) would be erroneous if it were not kept in accordance with established accounting principles. For example, if the asset account for machinery includes charges for maintenance and repairs, an error of principle results. A similar error would be caused if worthless accounts receivable were debited to an asset account called "Suspense" instead of to Profit and Loss or to Reserve for Bad Debts. On the other hand, the account would obviously be wrong if it were mathematically incorrect, for instance if it contained errors in addition or if its balance account were incorrectly calculated.

The detail work of verifying an account is usually performed by professional auditors, and the methods to be followed are fully outlined in such books as "Auditing—Theory and Practice," by R. H. Montgomery. As "Business Accounting" is not designed for the professional auditor, this phase of the detection of errors is not covered herein. The accounting principles which should be applied in the keeping of accounts are set forth and explained in this and other volumes of "Business Accounting."

4. Verification of Existence of Asset or Liability

The verification of the existence of an asset or a liability is a single process, but it may be accomplished in either of two ways, namely:

1. By a physical inspection of an asset or of the written evidence of a liability.

2. By inspection of a certificate from one who holds an asset or to whom a liability is due.

This kind of verification should preferably be made by the business executive in person. Properly made, it will disclose discrepancies, if any, between actual assets and liabilities and the ledger figures which purport to represent them. If such verification had been instituted in the case referred to in § 2, it would have revealed the fraudulent removal of the machinery.

Before discussing ways and means of making a verification it may not be amiss to point out the employer's moral responsibility in the premises. An employer's responsibility toward his employee does not end with paying a fair wage and providing suitable working conditions. It includes a positive obligation not to make embezzlement easy. Audits by professional auditors are advisable and should occasionally be made without notice to the persons whose accounts are to be audited, but in addition thereto it is an excellent practice for the business executive to conduct verifications on his own account. It should be understood that these may be made at any time. If they are done frankly, an employee cannot resent them. No greater mistake can be made than to forego any verification in the case of old and trusted employees. It is only the trusted employee who has an opportunity to become an embezzler, and most cases of theft ranging from petty stealing up to grand larceny have involved employees who have enjoyed the entire confidence of their employers. An incidental value of verifications apart from the safeguarding of employees from the temptation to misappropriate funds is the fact that such a verification assists employees in the detection of clerical and accounting errors. In other words, employers and employees should co-operate to protect each other against inadvertent errors as well as against fraud.

In the following sections no attempt is made to describe completely the methods of making audits used by professional auditors, but suggestions are advanced which will assist a business executive in verifying certain specific assets and liabilities. There will be discussed some of the means by which certain assets and liabilities can be verified through personal or physical inspection, or by the use of certificates obtained from persons outside the business organization who hold assets belonging to it or to whom it owes liabilities.

5. Verification of Cash in Hand

Cash is the most liquid of assets and is the one which can most easily be misappropriated. Accordingly it will occur to most executives that the verification of cash in hand is an urgent and obvious duty. The following procedures may be of suggestive value.

Cash in hand should be distinguished from cash on deposit, which is to be verified in another way. Cash in hand should invariably be handled by means of an imprest petty cash fund as described in Volume I, Chapter XVII, of this set. All cash receipts, no matter how small, should find their way into the bank account, so that the only cash remaining in hand should be the unexpended portion of the imprest petty cash fund. The balance of such a fund should be counted frequently without notice in advance, and the petty cashier should be given to understand that such procedure will assist him and that it should not be taken to imply possible dishonesty on his part.

Many petty cashiers are unable to resist friendly requests for advances from other employees of the business, with the result that the balance of petty cash frequently is not entirely cash but is composed in a large part of I O U's or other memoranda signed by various persons some of whom may have received unauthorized advances. It not infrequently happens that such I O U's become uncollectible through the resignation or discharge of employees who have signed them, and a frequent verification of the petty cash balance will disclose the practice, if it exists, of making these advances. Such an examination will assist also in inducing the petty cashier to keep proper vouchers for all payments made. One of the principal necessities for such vouchers is not the vindication of the petty cashier so far as the propriety of payments is concerned, but the securing of adequate accounting information upon which proper charges for payments made can be entered in the books of account.

6. Verification of Cash Receipts

The verification of cash on deposit requires three steps or processes, namely, the verification of cash receipts, of cash payments, and of the remaining balance. Each of these steps requires a distinct procedure and so each will be treated separately.

The greatest difficulty in the verification of cash receipts lies in determining whether or not all cash which has actually been received has been entered on the records. Experience shows that a very large percentage of defalcations occur through withholding cash receipts and making no record of them at all on the books. One of the best ways to prevent this type of embezzlement is to have all incoming mail opened by one person or in one department and to have a list of enclosures prepared by the persons who open the mail. This list should show specifically the amount of cash or cash items inclosed and should be routed to the executive or to some employee in his confidence, who can later compare it with the entries in the cash book purporting to show the receipts. If this procedure is followed, it becomes difficult for cash receipts to go astray.

Another way of concealing shortages is by means of journal entries crediting customers or other persons from whom money is due with unauthorized allowances and retaining cash actually collected from them. As a part of the verification of cash receipts, attention should be paid to the posting of such credits. All credits should be expressly authorized by the business executive or by a department head who is known to be responsible, and the authorization in each case should be evidenced by a written voucher or slip. These journal vouchers or credit slips should be preserved and examined from time to time, to ascertain that cash received from customers or other persons has not been misappropriated through the use of unauthorized credits.

7. Verification of Cash Payments

All canceled checks returned by the bank should be received, in the first instance, by the business executive or by some one in his confidence. To insure this, the bank should be requested either to mail the canceled checks in an envelope addressed to the executive or to deliver them in a sealed envelope so addressed. Care should be taken that such envelopes reach the executive before they have been opened. He should scrutinize the signatures on the checks to satisfy himself that no forgeries have been committed.

Although a bank which pays a forged check is obliged to make good the amount of the check, it will do so only if it is supplied with evidence upon which to prosecute the forger. Within the writer's experience a number of cases have arisen wherein the employer did not wish to have the embezzler prosecuted, partly for family reasons and partly to avoid the incident publicity. In these cases the banks have very properly refused to make good the shortage and the proprietor stood the loss. If he had scrutinized the signatures on the canceled checks at the time they were returned by the bank, he would very probably have detected the forgeries before the practice had become established.

Whether or not two signatures should be required on checks is a matter of internal management, but when two signatures are required it is generally undesirable for one of the persons to sign checks in blank, leaving the sole discretion to the other signor. This is often done in offices where one of the signors is likely to be away frequently or for considerable periods of time. If it appears to be impracticable to require that both signors examine the particular checks which they are to sign, then it is suggested that no result is secured through having two signatures and that only one should be required.

While a detailed examination of canceled checks and a comparison of them with supporting vouchers would ordinarily be made only by professional auditors, it is nevertheless desirable for a business executive from time to time to examine the vouchers for checks of large amount, if for no other reason than to satisfy himself that the proper supporting documents are being preserved.

8. Verification of Balance on Deposit

The verification of receipts and payments is likely to serve no purpose unless the balance on deposit is frequently verified. This verification in the ordinary case would be monthly, at which time the bank account should be balanced by the bank. The pass-book as balanced, or the statement prepared by the bank with the supporting canceled checks, should be returned—as pointed out above—directly to the executive or his secretary. It is advisable to have a reconcilement of the bank balance, as explained in Volume I, prepared from time to time by the executive or under his immediate supervision. If the reconcilement be left entirely to the bookkeeping or accounting department, it would facilitate the concealment of shortages. The value of such a verification would be very greatly reduced if it consisted merely of checking the reconcilement prepared by the bookkeeping department or the accounting department, without receiving directly from the bank the pass-book or statement and the canceled checks.

9. Verification of Accounts Receivable

The cashier or other person who handles cash should not have access to the accounts receivable, but if the business is small and this division of labor impracticable, a verification of considerable value could be secured by having the executive or his confidential representative personally mail statements to customers. If statements are mailed in this way and all incoming confirmations or correspondence concerning them are received by the executive, it becomes difficult for anyone in the bookkeeping or accounting department to conceal errors in the accounts receivable without sending statements which do not agree with the books. The office work should be so arranged that before statements are sent out they can be readily checked with a trial balance of the customers ledger, or if they are sent out before such a trial balance is prepared, the balance shown on each statement should be listed and subsequently compared with the trial balance. In the bookkeeping departments of many large concerns the statements are prepared from day to day, by the use of typewriting or other billing machines, as fast as the entries are made on the books.

10. Verification of Notes Receivable

All notes receivable should be kept by the business executive or under his immediate supervision, so that they cannot be discounted or otherwise negotiated. These notes should not include any which have been dishonored. As pointed out in Volume I of this set, a note which has been dishonored should be charged back to the maker as an account receivable.

It is advisable to inspect all notes receivable frequently and to see that they agree with the amounts called for by the note registers.

11. Verification of Inventories

The verification of inventories is essentially a matter for the professional accountant, but the business executive should apply many of the same tests to inventory figures presented to him. Reference to "Auditing—Theory and Practice," by R. H. Montgomery, will show the principal ways of testing the accuracy of inventories.

12. Verification of Securities

All securities, particularly those which are readily negotiable, should be kept under the direct supervision of the business executive. They should frequently be examined and, where they consist of bonds in considerable number, should be carefully counted. Defalcations are sometimes concealed by substituting false or dummy bonds in place of the actual ones, so carefully that the false ones are counted as if they were real. This can sometimes be done with comparative safety in the case of coupon bonds when they are bound on the end with a cloth strip. Bonds and other securities when counted should be examined individually to detect all worthless papers.

If the securities are of any considerable volume, particular care must be exercised to keep them under control the entire time they are being counted. Many defalcations have been concealed by means of having one lot or block of securities counted a second time. That is to say, after these securities have been counted once they have been surreptitiously withdrawn from those which have been examined and presented to the person making the examination so that they were counted a second time.

13. Verification of Fixed Assets

As a rule, the best verification of fixed assets to be made by the executive is to have all the principal fixed assets, like machinery and equipment, numbered or otherwise tagged for identification and to make a physical inspection from time to time to see that all the units called for by the accounts are actually on hand. To accomplish this it is necessary to have the asset accounts so kept as to indicate the number of units of each kind of fixed asset which should be on hand.

14. Verification of Liabilities

The amounts of liabilities can easily be verified currently by having all incoming mail opened as suggested in § 6. If this procedure is followed, statements received from creditors can be compared with the balances shown by the trial balance. Where liabilities consist of outstanding bonds some of which are redeemable from time to time, it is desirable for the business executive personally to scrutinize the bond records and secure, if necessary, certificates from any trustee for bondholders or other banking depository, which may assist him in verifying the outstanding liability.

The object of the suggestions made in this chapter is not to advise against audits made by professional auditors, but rather to propose means by which the executive can from time to time assist in maintaining correct accounts. Work that he does in this connection is roughly analogous to the first aid work which can be performed before the arrival of medical or surgical practitioners.

REVIEW QUESTIONS

1. By what fundamental steps should the verification of an asset account be conducted?
2. What does the verification of an account involve?
3. How can the existence of an asset be verified?
4. How should cash receipts be verified?
5. How should balances due from customers be verified?

CHAPTER XXXIII

CORRECTION OF ERRORS

1. Organization and Efficiency Records

The efficient use of methods of correcting errors depends to a very large extent upon the proper organization of the personnel of the accounting force, while the proper organization of the accounting force often depends largely upon an efficient system of detecting and correcting errors. Thus the two factors are, in a sense, interdependent.

In a small organization where the work of each employee in the bookkeeping or accounting department comes under the supervision of the proprietor or the chief executive, efficiency records for such employees are unnecessary, because the executive is able to form a first-hand judgment of the capability of each of them. When, however, the organization is larger and the supervision is distributed among minor executives, it is advisable for the chief executive to have a system of efficiency records which will automatically bring to his attention the standard of performance attained by each employee. Efficiency or effectiveness is expressed by the ratio between actual performance of work and an estimated or predetermined standard to which an employee is expected to attain. For example, an assistant bookkeeper may be expected to make an average number of postings per day and his efficiency will be measured in part by his ability to make the daily average. It is obvious that incorrect postings should not be counted in determining the number made, and if mistakes are concealed, the record of the bookkeeper's daily performance will be wrong. It is only by requiring a frank admission of mistakes and an unequivocal correction of them that a true record of efficiency can be secured. Thus, the application of the fundamental principle underlying the proper correction of errors—namely, that the error should be frankly admitted and clearly explained in the correcting entry—becomes essential if efficiency records are required.

2. Fundamental Principle

The fundamental principle—that the error should be frankly admitted and completely explained in the correcting entry—is frequently ignored; often by omitting sufficient explanatory detail in the correction, and sometimes even to the extent of attempting to conceal the original error. The latter, of course, is attempted when an intentional error was prompted by fraudulent purpose, as for example when one seeks to conceal a defalcation, to avoid the imposition of a just tax, or to defraud another who is or is about to become financially interested in the business. When such an error is corrected by the person who is responsible for it, every effort naturally is made to conceal or minimize it.

But the principle of frank acknowledgment and complete correction is many times ignored when there is no such incentive. It often is felt that once the accounts are restored to correctness there can be no further occasion for referring to the error and that both it and its correction should be forgotten as soon as possible. This chapter, directed against this idea, outlines some of the chief means of applying the fundamental principle suggested above. As these are studied it is believed that the soundness of the principle and its practicability will be evident.

3. Rules of Procedure

While it is impossible to prescribe exact methods for correcting all conceivable errors, because the possibilities of error are practically infinite, it is thought, nevertheless, that the following rules of procedure will be helpful. Each is further explained and illustrated in the succeeding sections.

Rule I. The entry containing or reflecting the error should be marked when the error is discovered, so as to indicate its erroneous character and to refer to the correcting entry.

Rule II. The correcting entry should refer to the erroneous entry which it corrects.

Rule III. The correcting entry should, where practicable, be made in the same book which contains the erroneous entry.

Rule IV. The correcting entry should contain an explanation sufficiently complete so that the error and its correction can readily be understood, even after the transaction and its details have been forgotten.

Rule V. Where corrections necessitate numerous adjustments of Capital, Undivided Profits, Surplus, or similar proprietorship accounts, they should be reflected in an adjustment account, the balance of which should be closed into the proprietorship account affected.

4. Three Steps in Making Corrections

To be satisfactory, the correction of an error should be completely made. If any vestige of the error remains, the operation for correction will prove unsuccessful and sooner or later trouble will result. To insure complete correction the following three steps should invariably be taken:

1. Correct the entries in the book of original entry.
2. Correct the entries in the ledger accounts affected.
3. Correct all statements which in any way reflect the error.

Nothing should be allowed to interfere with the orderly observance of this procedure. If, for example, the ledger accounts are adjusted through the journal but the book of original entry is not made to indicate that the error noted has been corrected, it is almost certain that someone sometime will rediscover the error and not being familiar with its correction will spend valuable time and effort in preparing a new correcting entry. Cases have been known where a second attempt to correct an error has resulted in the most puzzling complication of entries, adjusting and readjusting figures on the books. It is an even more serious omission to fail to note necessary changes in statements, because statements are usually the means by which figures in the books of account are made known to persons who are to use and rely on them. If a statement is not corrected to agree with the accounts when changed, the reconcilement of it with a subsequent succeeding statement will usually be impossible without reference to the accounts themselves. Such a reference always is annoying and sometimes is completely impracticable, particularly when immediate use of the statement is required or when the persons who are to use it are not in the city where the accounts are being kept.

5. Check-Marking Corrections

Before correcting entries can be prepared, it usually is necessary to examine a number of entries already made to ascertain their exact effect upon the accounts as a whole. In making such an examination, references and cross-references to many accounts and separate books frequently are required, and it becomes advisable to indicate precisely the figures and entries which have been examined and approved or marked for correction. The adoption of a uniform system of check-marking items which have been scrutinized will materially assist not only the person who is preparing the correcting entries, but also anyone else who later may have occasion to examine the correction.

Indiscriminate or meaningless marking of figures is worse than no marking at all. Many persons suffer from a curious psychological obsession under which they seem unable to look at any figure in any book, account, or statement without making some sort of mark against it. The writer has seen accountants and others who should have known better deliberately check-mark figures when no purpose whatever was to be served by the marks. After such a person has idly placed his several kinds of marks upon an account or statement, one who later has to examine the figures critically must erase all these marks before his work can be begun and thereby loses completely any verification value which the marks might possess. Even if verification later is not required, books, accounts, and statements are made unsightly by indiscriminate marking.

6. System of Check-Marks

Many years' use of the following system of check-marks in the conduct of audits has shown that it furnishes definite and satisfactory evidence of the precise steps taken in the verification of the entries. It is recommended for use in any verification which may be a prerequisite to the preparation of adjustments for errors. The main idea underlying the system is that each mark has a definite and unvarying significance.

When an item has been verified, the following mark () * is placed to the right or the left of it as convenience may dictate. This mark on an item in a statement means that the statement is in agreement with the ledger account. When the mark is placed on an item in a ledger account, it denotes that the item has been correctly posted from the indicated book of original entry. When it appears in a book of original entry, it signifies that the figure has been vouched or verified by supporting documents, vouchers, letters, or by some other means satisfactory to the person making the verification.

The same mark placed *under* a figure indicates that the item is the correct total of all figures which were

* These marks, when used in practice, should not exceed ⅛ of an inch in size.

added to obtain it. When the item has been further verified by cross-footing, that fact can be indicated by making the mark somewhat longer and drawing a line through it, as follows ( ). For example, this mark under the total of the Accounts Payable column in a voucher register would signify that the column had been correctly added and that the total was the sum of the totals of all distribution columns.

When the posting of an item from a book of original entry to an account, or an item from or the balance of an account to a statement, has been verified, the following mark (✓) should be placed at the right or left of it as may be convenient. If also the item itself had been vouched or approved, then the verification mark ( ) would be placed on it in addition to the mark which shows that the item has been correctly posted.

7. Illustration of Rule I

In this and succeeding sections examples are given to show the application of the rules suggested in § 3.

Rule I requires that the entry containing or reflecting the error should be marked when the error is discovered so as to indicate its erroneous character and to refer to the correcting entry. This is illustrated by the following case.

A company manufacturing oxygen, hydrogen, nitrous oxide, and other gases for commercial and medical use had a cost system under which the total monthly expense of cylinder repairs, maintenance, and up-keep was distributed over the products on a percentage basis. The journal entry effecting the distribution was complicated because the elements composing the cylinder maintenance (painting, testing, and the like) were distributed individually in addition to showing the portion of the total expense chargeable to each product. In one monthly entry a mistake was made by using wrong percentages and this resulted in some twenty errors of a statistical nature in the ledger accounts.

Upon discovery of the mistake before the close of the fiscal quarter, a correcting journal entry was made and immediately the following indorsement or note was written in red ink in the margin of the journal alongside the erroneous entry: "Entry wrong—wrong percentage used—corrected on journal, folio 167." This fixed for all time the erroneous character of the first entry and enabled anyone interested to refer instantly to the correcting entry.

8. Illustration of Rule II

Rule II specifies that the correcting entry should refer to the erroneous one which it adjusts. In the case cited above the entry on folio 167 of the journal specifically referred to the first one by stating: "This entry to correct erroneous entry on journal, folio 151." Then followed the explanation required by Rule IV.

Incidentally this is an example of the application of the fundamental principle that mistakes should not be concealed. If instead of making a new journal entry to correct the wrong distribution, the bookkeeper had attempted to change the figures in the journal entry and in all the ledger accounts which were affected, he would have been obliged either to erase the figures originally made or to draw lines through them and write the correct figures above the former ones. The latter procedure, although better than the first, would result in entries which would be confusing to the eye and likely to lead to errors in addition. Erasing the figures might lead to a troublesome difference in the trial balance and in any event would raise a question as to what the original figures had been and why it was necessary to change them. Figures should be like Cæsar's wife—above suspicion.

9. Illustration of Rule III

The correcting entry should, where practicable, be made in the same book which contains the erroneous entry. To illustrate this, assume that a sale of Department G was credited in error to Department D in a sales book containing a column for each department, and assume further that the error was not discovered until the following month after the sales book for the month in question had been closed and posted.

The first step, following Rule I, should be to note the error opposite the erroneous extension of the sale and then to note under the monthly total of each department affected the exact amount by which that total was over or short, giving there the sale number, date, page, or other identification pointing to the individual extension which was wrong.

At this point many accountants would make a journal entry debiting Department D Sales and crediting Department G Sales. It is better, however, to make this correction in the sales book itself. If the monthly totals by departments are of no special significance, an entry at the end of the following month increasing the sales of Department G and reducing those of Department D can readily be made by entering the amount to be transferred in the Department G column in black ink and in the Department D column in red ink, the latter being subtracted from the preceding figures in the column to determine the monthly total for posting. If the monthly totals shown by the ledger are used in the preparation of statements or are otherwise of real value during the fiscal year, the correcting entry may still be made in the sales book and posted individually in the same manner as it would be posted from the journal. The underlying idea of this rule is to preserve uniformity in posting and to reduce the number of entries in the journal. The latter book, as explained in Volume I, should contain only opening and closing entries and such adjusting entries as cannot conveniently be made in any other book of original entry.

10. Illustration of Rule IV

Under Rule IV the correcting entry should contain an explanation sufficiently complete so that the error and its correction can readily be understood even after the transaction and its details have been forgotten.

Here, generally, is provided an opportunity for the careful and precise use of words as well as figures. Prolixity must be avoided, but, on the other hand, the explanation must explain. It must be as clear years afterwards as it is at the time it is made when the facts involved are fresh in the memory. It is in this respect probably more than in any other that many correcting entries are at fault. Much could be written in illustration of this rule because many instances of corrections insufficiently explained will occur to anyone who has had occasion to make corrections or to examine those made by others. The following example will indicate the general idea of Rule IV. The application of it to complicated cases requires keen analysis and careful constructive writing.

A contract between a corporation and its general manager provided that he was to receive 10% of the net profits, but it did not specify whether his 10% was to be considered an expense before the final net profits could be determined. The board of directors created a reserve for contingencies, none of which were imminent or clearly foreseen. The amount of this reserve was deducted from the profits for the year and the manager was credited with 10% of the remaining balance. After these entries had been made and the Profit and Loss account closed into Surplus, it was decided that the reserve should have been charged to Surplus and not against the current profits, and also that the manager's share should have been considered an expense of the business. The correcting journal entry carried the following explanation, which it is believed is sufficiently complete:

Surplus	$400.00	
Manager		$400.00

To increase manager's share of profits for 1919 from $600 credited on journal, folio 79, to $1,000, calculated as follows: Net profits without deduction of $5,000 reserve charged in error to Profit and Loss on journal, folio 78, were $11,000. Manager's share being business expense, $11,000 was 110% of the net profits which amount to $10,000, of which 10% is $1,000.

11. Illustration of Rule V

Where corrections necessitate numerous adjustments of Capital, Undivided Profits, Surplus, or similar proprietorship accounts, they should be reflected in an adjustment account, the balance of which should be closed into the proprietorship account affected.

It is obvious that the correction of an error affecting the operating result of any previous year should not influence the Profit and Loss account for the current year. Consequently such adjustments should be offset in the Surplus or other proprietorship account, excluding, of course, any accounts for capital stock. Only two or three adjustments of this kind can conveniently be made directly in the proprietorship accounts. When more are necessary, or when partners' capital accounts with varying profit-sharing ratios are involved, it is much more convenient to use a separate adjustment account to collect all of the alterations in capital, and then to close the balance of this account into the one or more capital accounts affected. This rule seems too obvious to require a concrete illustration.

12. Conclusion

In this and in the four preceding chapters an attempt has been made to classify errors, to define the principles underlying their correction, and to suggest procedures for recording the corrections. Only the surface of this topic has been touched. A separate volume on it could well be written but such a book would appeal more to the professional accountant and auditor than to the business men, the executives, the bookkeepers, and clerks for whom "Business Accounting" has been designed.

The dangers of errors, however, and some of the means for their prompt and explicit correction have been indicated.

REVIEW QUESTIONS

1. What are employees' efficiency records and when are they useful?
2. What is the fundamental principle underlying the correction of errors?
3. What three steps must be followed to insure complete correction of an error?
4. Why is a uniform system of check-marking advisable?
5. What are the five rules to be followed in making corrections?

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