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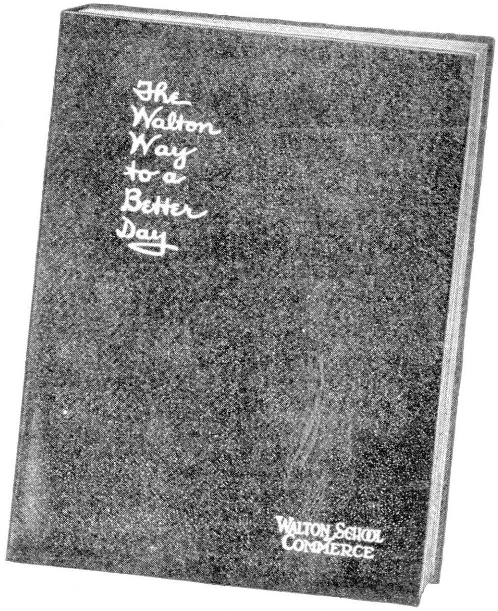

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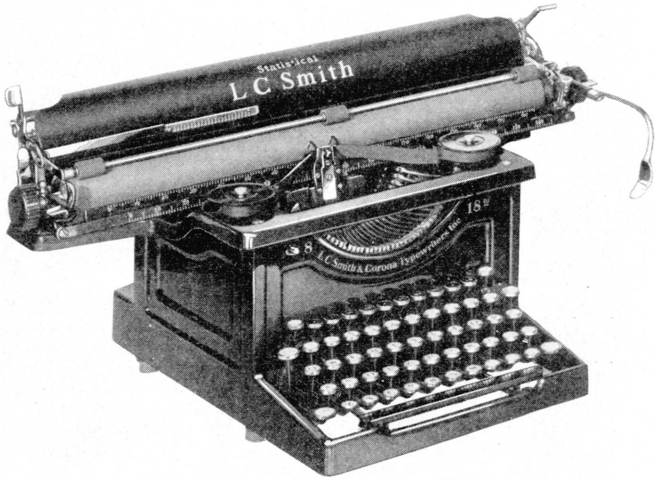

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The JOURNAL *of* ACCOUNTANCY

Official Organ of the AMERICAN INSTITUTE OF ACCOUNTANTS

A. P. RICHARDSON, *Editor*

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EDITORIAL

The Effect of Convening

A few days ago a small group of accountants—several of whom are known, by name at least, to most of the practitioners in the United States—fell to discussing the effect of meetings upon the progress of any trade or profession in which those who meet are engaged. The subject is not startlingly new and it does not seem as though there could be said about it much that has not been said times out of number. Every protagonist of national or local organizations in which a class of men or women gives expression to its ideals, hopes and fears is voluble in exposition of the merits, nay, gentlemen, the very necessity of corporate activity. Union is strength; the faggot is stronger than the stick; if divided we fall, and all other of the host of staple arguments are dragged out and put on display with a bland faith in their efficacy which speaks volumes for the continuity of organized thinking. Like the seven original jokes they never disappoint. Everybody knows them and seems to esteem them. And they are all true enough. Without united effort no great accomplishment is probable. Sometimes, of course, there is a good deal of mere bombast about the noble utterances which the audience applauds until the gilt ceilings of, say, the Plantagenet-Tudor Room of the Grand Imperial Palace Hotel are strained almost to bursting. All of us have heard gifted orators proclaiming sentiments of pure philosophy which the hearers greeted with cheers and had not the slightest intention of applying to their individual courses of action. It takes a vast quantity of rock to yield an ounce of gold and it takes a cataract of eloquence and asseveration to produce even a drop of lasting effect. But there is plenty of vocal ability among us and it may as well be spent in calling to Utopia as in anything else. Furthermore, that is not the subject now before the house. The effect of meetings was the text and all these words about words are simply another demonstration of the native loquacity of those who speak or write. The accountants who were talking about the subject were led to its consideration by the desire that something might be done to increase attendance at meetings of the profession. They said that a substantial benefit might be brought to accountancy by a more general participation in conventions and the like, and that this seemed especially important at present when there is an unusually large number of questions crying out for answer.

Sir Oracle

As an example of the visible results of congregated deliberation, someone referred to the radical change which took place in the phraseology of accountants' certificates after a meeting a score of years ago when representatives of accountancy in America and in some of the British dominions had debated earnestly and at length the whole question of the propriety or even the possibility of an absolute affirmation of fact. Before that time it had been customary to certify that accounts were true, accurate, correct or some other equally positive adjective-attribute. Once in a while an imaginative soul might embellish his certificate with a cryptic E. and O. E.—errors and omissions expected, wasn't it?—but often there was only a word which conveyed a meaning of total responsibility. There were many people then who felt that an accountant was a tester who applied certain quantitative and qualitative formulæ to the books of account and other records and, having by these means established beyond a doubt the immutable accuracy of his discoveries, should set down the facts without any circumlocution or qualification. Perhaps there were accountants afflicted with an infallibility complex—as the psycho-analyst might say—but, whether there were or not, the certificates in those days were often utterly ludicrous expressions of oracular arrogance. As a consequence, the accountant was not widely respected. He was most like a mechanical device for printing approval—a kind of rubber stamp—and, although such implements have a place in an office, they do not, as a rule, inspire any depth of respect or affection. Some men, however, knew that the notion of exactness in accounting was a fallacy and they looked forward to a time when the accountant would do what he was able to do honestly: he would express his opinion based upon the results of investigation, but he would never certify that accounts were correct—simply that and nothing more. Soon or late it was certain that the absurdity, to say nothing of the danger, of positive certification would appear.

A Reasonable Form of Statement

About that time occurred the meeting to which we have referred, and there was a frank discussion of the duty of the accountant to say to his client and to the rest of the public plainly and precisely what he felt competent to say. The accountants who were present were almost of one mind. They agreed that accountancy is not and never can be an exact science and that its application to the affairs of business and finance must be carefully restricted to the form of advice and opinion. It is probable that there is not in the entire history of accounts a single instance of absolute accuracy in any case involving anything more than mathematical principles. The moment the human element enters, the assurance of perfection flies out the window. If there ever was a statement of accounts which was correct in every detail, it was accidental and no one could have known it. These and other conditions were given consideration by the accountants at the meeting and it was decided that the time had come to tell the truth. Thereafter a new phrase began to appear in the reports of accountants and one read that, "We certify that in our opinion this statement of accounts reflects the actual condition of affairs," or something of that sort. The words "in our opinion" were newcomers and they changed the whole course of accountancy. True, the word "certify" persisted and still persists. It is not a good word at the best of times, and it is somewhat contradictory to "certify that in our opinion." It adds nothing to force and it often seems to stultify the whole report. That, however, is another question and has only an indirect bearing on the present subject. The point that we are trying to make out of all this jungle of words is that a meeting of accountants did more for the advancement of the profession by agreeing to express opinions than could have been done by any other method of approaching the question. There have been many other reforms brought about by the exchange of ideas at meetings, and every accountant should be glad to be present when new theses are nailed to the doors at Wittenberg. Perhaps this year or next or five years from now—who knows when?—a meeting may resolve itself into a trial court, hale in the culprit "certify," and deal with him as his incompatibility deserves. It would be pleasant to attend that administration of belated justice.

A Definition of Ethics

The world has been looking for a definition of ethics and a great many people have written definitions which seemed to them satisfactory. For years this magazine has devoted more space to the consideration of ethics than of any other one question. Lately we have been particularly struck with the appropriateness of comment, in the form of a definition of ethics, which appears in a little pamphlet entitled "*Antioch Notes*," dated February 1, 1930. The following paragraph is well worthy of consideration and retention in the memory:

> "Ethical sense is awareness of beauty, economy, fitness and proportion in conduct. Ethical discrimination, a sense of obligation and disciplined will-power make character. Keen ethical sense requires intelligence and experience. Lacking these, conduct must rest on codes, presumably formulated by those with greater ethical sense for guidance of those with less. In ethics, as in every field, genius sets standards which become authority to those who recognize excellence, even where they cannot create it."

The pamphlet from which this is taken is a publication of Antioch College of Yellow Springs, Ohio. The comment affords an excellent answer to those professional men of all kinds who feel that codes of ethics are unnecessary. So long as there are some folk who lack that ethical sense which has been defined as the awareness of beauty, economy, fitness and proportion in conduct, there must be codes to guide those otherwise undirected souls. In general, it is found that those who have no need of a code of ethics are the last people in the world to raise objection to the existence of a code. No one protests against a law which does not interfere with his personal action or desires, unless he objects on some principle other than that involved in the law itself. In particular, a true anarchist objects to all law or authority, not because of what may be contained in the law or inhibition, but because anarchy connotes the needlessness of all law.

Under Stress of Examination

A few months ago we published a collection of answers taken from the examination papers of applicants for admission to professional practice. We have now received another group of replies which are entertaining, if not encouraging. For example, one young gentleman informed the examiners that "stocks of corporations would be fixed assets if not salable"—fixed indeed. Another candidate, in reply to the demand "Explain your reasons," wrote, "It seems to me the reasons should be evident in this case." This reply has a great deal of suggestive value. Candidates who feel some hesitancy about replying might follow the example of this young gentleman and put it up to the examiners frankly. A candidate who was honest, if nothing else, said, "Not having had any experience in investment trusts I would go about it the same way as I would in any other kind of audit." But that, of course, is not quite fair to the whole profession. Another candidate, dealing with no-par stock, wrote that one of its disadvantages was the liability to the stockholder. The examiner who sends this reply suggests that some who have been promoting the issuance of uncertain stocks might agree. One of the advantages of no-par stock was said by another candidate to be that "when listed on stock exchange it can not be said to be low no matter how little it appears per share." This is on the theory, no doubt, that if stock has no par value it has no value and whatever value appears is so much to the good. Another applicant, describing audit procedure in certain circumstances, said, "These parties should be interviewed by letter or in person." The interview-by-letter idea has merit. As an example of how English may be tortured, an examiner submits the following taken from the papers of a candidate at the November, 1929, examinations: "The depreciation on a reducing balance is an economic concept and has for its purpose a gradual decline in depreciation on the theory that the asset depreciates little during the first time but that depreciation increases rapidly with the increase in years." One might add, in the slang of the day, "check and double check."

Clear Statements Needed

The enormous increase which has taken place in the number of shareholders in corporations in the past fifteen years has inevitably attracted the attention of the public to the financial statements of corporations whose stocks are bought and sold for purposes of investment or speculation. The statement of affairs, whether in the form of balance-sheet or profit-and-loss account, or any other statistical record, has become a matter of intimate interest to every owner of securities. The balance-sheet and its supporting statements are no longer the peculiar property of persons who understand accounts, and it is not sufficient to express them in a way which is confusing to all but the expert. What the public wants, and will have sooner or later, is a clear, explicit presentation of the facts which will enable the ordinary reader to determine something of the actual nature of the company's business and prospects. It has been the custom, in this country particularly, to leave everything in the hands of directors. Stockholders' meetings have been purely nominal and in many cases have been unattended except by a few barrels full of proxies, which some clerk has voted in accordance with instructions. This condition still prevails to an unfortunately large extent, but there has been a considerable change in the manner of stockholders where accounts are concerned. Some years ago there was a little agitation stirred up by a theorist or two calling for more lucid statements of account and for a time it seemed that the demand for clarity would have effect, but the agitation died down almost as quickly as it had arisen and the hopes which were entertained for a great and much needed reform were dashed again.

Traditional Forms Often Vague

It is undoubtedly true that the ordinary statement of accounts means absolutely nothing to the ordinary reader. Take, for example, the periodic statements offered by banks. Does the man in the street, or even in the office, know any more after he has read these statements than he did before? He sees an imposing array of figures; he reads of millions on this side and on that side of the balance-sheet, and he comes to the conclusion that if there be large enough surplus and undivided profits the condition of the bank is sound. In the case of an industrial corporation or a public utility there is usually more detail, but it is not expressed in a way which means much to the ordinary reader. The truth of the matter is that accountants have controlled the method of reporting affairs, and they have failed to realize that the technical knowledge which they possess is peculiar to those who deal daily in accounts. Quite often one hears it said that if the reader of a statement of affairs is unable to understand it, it is the reader's fault—he should school himself and learn what expressions and computations mean. In other words, everyone should become a proficient accountant. But that is a counsel of perfection and, of course, like all such counsels, will never be effected. It seems that accountants themselves should do something to bring about reform before there is any more insistent demand for it. It is always much better to make a concession before one is forced to do so. And, really, it makes no difference at all to an accountant whether his statements are presented in accordance with a tradition of technique or in accordance with common sense and clearness.

An Example of Clarity

There have been experiments lately of a new form of financial statement. Take, for example, the narrative scheme which has been adopted by the Corn Exchange bank of New York in its statement of condition. In many theatres while one awaits the ascent of the curtain he can while away his time learning from the programme something about the activities and accomplishments of this large local bank. If he knows nothing whatever about the theory of debit and credit and is profoundly innocent of all acquaintance with the complexities of double-entry, he can read the report of this bank without any great mental strain, and when he has reached the end he really knows quite a good deal about the condition in which the bank is said to be. He is not responsible for the accuracy of the figures, but that, on the other hand, is a matter with which he will not concern himself. The ordinary reader must depend upon the integrity of those who make financial statements. It will be sufficient for him if he may understand what the statements are trying to tell him. This question of making accounts intelligible is frequently discussed by accountants at their meetings and it is unusual to find anyone who is logically opposed to the adoption of a reform. The obstacle seems to be inertia. What has been done for many years is easier to follow than some new plan which has been tried by only a few pioneers.

Barrage of Mystic Words

Let us suppose, for purposes of argument, that some great corporation, whose securities are owned in every part of the country, were to issue its annual statement to stockholders in a new narrative form. What objection could be raised to such a change? The facts would be presented as they are at present in the prevailing system; there would be nothing withheld which is now available; the dignity of the accounting department would not be jeopardized, and the authority of the public accountant who certified would not diminish in any way. On the other hand, the public would come to have a greater respect for everyone concerned with the preparation and certification of the accounts if advertising were done in a clear and common-sense way. One of the objections which the public raises to the operations of the legal profession is because of the almost incomprehensible mass of verbiage which cloaks every decision or legal opinion. "Why the devil," says the man in the street, "can't the lawyer say what he wants to say without mingling a lot of long words, dog Latin and idle redundancy in every legal document?" In the same way there were physicians and surgeons, and perhaps there still are some of them, who made it a principle in their practice to impress the patient with their erudition. They attempted to mystify by words, or even more by silence, when all that was necessary was a little good advice as to diet or simple remedies. Those old befuddlers—most of them, at any rate—have gone out of practice. The modern physician tells his patient what he thinks is the matter with him and if he is wise he usually adds, "But, of course, we never can be sure. What I am giving you is my personal opinion based upon such experience as I have had."

The Abracadabra of a Profession

The accountant seems to have felt for many years that his success depended upon adherence to a complicated system of technique in expression. We hear of funds and reserves and amortizations and obsolescences, and the Lord only knows what else, which are merely names to most people. That very holy formula of double-entry itself is quite beyond the comprehension of an ordinary person who does not devote his life to its consideration. Why, in the name of all that is reasonable, should we not adopt a sensible method of stating a simple fact? The purpose of a statement of accounts is said to be the information of the reader. Well, then, is it not better that effort should be made to accomplish the purpose in mind? Those few corporations which have adopted the plan of trying to speak plainly to the ordinary stockholder have been successful. There has been no protest from anyone because of the reform. Of course, for consolation or delight of the accountant it may be well to adhere to the old system of balance-sheet, income account, etc. with all the balances which are necessary to maintain apparent equilibrium, but we venture to express the opinion that the public, which is really the ultimate consumer of all professional service, would vastly prefer what has been called the narrative form of statement to anything else that has ever been devised. We are told that Pacioli, or perhaps someone even earlier than he, devised this marvelous thing known as double-entry bookkeeping. Is there any other science in which a formula devised by a pure theorist has remained unaltered during the march of progress in four hundred years? It is probably rank heresy to say this, but we admit that the form of statement presented by the Corn Exchange bank of New York seems less distressing than the best manifestation of fifteenth-century practice. Perhaps someone will feel inclined to tell us that there is no reason to depart from precedent, but we feel rather strongly that the result of a straw vote on such a question would be a revelation to the die-hards.

Grave Negligence by Accountants

A correspondent sends us copy of a letter (reprinted in *The Paston Letters*, edited by James Gairdner and published in 1895 by A. Constable & Co., London) which is of peculiar interest to accountants. The letter was written on May 1, 1457, by one William Botoner, who seems to have adopted the name of William Worcester as well, using either with charming impartiality. This man appears to have been a secretary or something of that sort to Sir John Fastolf, name provocative of joyous conjecture, who had built near Norfolk a residence called Castre. The letter concerns the accounts of this manor house.

To the ryght worshypfull Sir, John Paston, Escuier,
beyng in Norwych, yn haste

Ryght worshypfull Sir, aftyr dewe recommendacion, please yow to wete that I wrote a remembraunce to yow the day that I departed owte of Norwich, by Rychard, the Parson ys servaunt of Blofeld, concernyng certeyn maters to be remembred by your wysdom for my maister ys avaylle, whych your grete wysdom can well undrestand ys ryght nedefull, as one thyng yn especiall, that Shypdam and Spyrlyng ought to labour, fyrst of onye thyng that belongyth, to audyt the accompts of the resseyt and despense of my maister housold at Castr seth he came last in to Norffolk, whych aswell for the provisyons that ys had of hys oune grownyng as in money payd; for till the seyd accompts be made ordynatlye, whych be of a grete charge yeerlye, wete ye for certeyn my maister shall nevere know whethyr he goth bakward or forward. And manye othere accomptants that maken lyvere of provysyons of cornys and catell to the household by the resseyvour and by the bayllyfs can not approve theyr liberatz just tille the seyd housold bokes be made upp; and seth it hath be kept ordynarylye seth my maister begen to kepe house thys 1. yeer almoste, and when he hath be absent beyond see, &c., hyt ought to be more redelyer be doon and made upp whyle he is present, and well the rathere that hys housold menye were not so hole to ghedr thys xl. yer as be now at Castr. Also hyz minustrs of accompts of hys chieff maner of Haylysdon for iij. yeer to make upp and to examyn; and I ensure yow full simplye approwed hys wollys and hys fermys.

And the iijd ys that so wold Jesus my maister audytors wold faythfully and playnlye enforme my maistr of the trouth of the yeerly grete damage he beryth in debursyng hys money aboute shyppes and botes, kepyng an house up at Jermuch (Yarmouth) to hys grete harme, and resseyvyth but chaffr and waare for hys cornys and wollys, &c. and then most abyde along day to make money; of such chaffr takyng he shall nevere be monyed, ne be aunsuerd clerly of hys revenues yeerly but (unless) those thyngs abofeseyd be amended be tyme. Yn Lowys days xij. yeer to gheder my maister was wont to ley upp money yeerly at London and Castr, and now the contrarye—de malo in pejus.

I dar not be know of thys bille, but ye may question and vele of the disposicion of thys maters of otheres, and then undrstand yff I wryt justlye or no; and ye, as of your mocion for my maister worshyp and profyt, exortyng hym, the stuard, Shypdam, and Spyrlyng to take a labour and a peyn that thys be reformed.

I pray yow, and require yow kepe thys mater to your sylf.

Yowr,

BOTONER.

It is heartening to find that even in the fifteenth century it was recognized that until accounts had been put in order the proprietor could not know "whethyr he goth bakward or forward." But Shypdam and Sprylyng, alas, are still in practice here and there.

Cross-country Bookkeeping*

By Tams Macart

An Associated Press despatch from New York not long ago stated that "A mechanical device known as the 'business brain' which simultaneously will do the work of a cash register, bookkeeping and adding machines, and, from another part of the building, make a complete record of a sale at the time it is made, is about to make its bow in American industry." As I read this I fell to musing, and the following account, of how once upon a time things were different, resulted.

In the summer of 1901, in one of the mid-western cities I was engaged to take charge of the office of a large lumber and timber company in northern Idaho. It was not my first experience of the frontier, for in the years 1886–87–88 and 89 I had, as a "tenderfoot," rolled up in blankets in the camps of the Montana Rockies, and on ranches in the coast counties and the Sierran foot-hills of northern California.

Doubtless it was due to these experientes that I was hired, because the president of the company, a gruff, but kindly, old man, had been a railway contractor in the early days of railroading in both North and South America, and was skeptical of the "staying" qualities of "white collars" who had never been very far from steam radiators.

On arriving at my destination, I found that I was expected, a pleasant young fellow driving up with a light express wagon, into which he bundled my baggage, after which he turned the horses' heads eastward and we set out for the camp, about a mile distant. As we drove along at a brisk pace over the dusty road, I reflected that whatever else my new home was to have in store for me, I was certainly to have my fill of scenery, for seldom have I seen a more beautiful setting. It was like the drop-curtain of an old-time theatre. To the north the land was heavily timbered with pine and cedar; at the northwest a saddle-backed mountain, which in late July still bore a few patches of snow, lifted itself 6,000 feet above the sea, while to the east lay the sparkling blue waters of a lake which my guide told me was forty-five miles in length, the southerly end narrow, enclosed by high ranges,

* [A "cross-country bookkeeper" was the name given in the earlier days of the far west to a keeper of accounts who was accustomed to the hardship and could surmount the obstacles incident to the opening of a new country—Editor.]

and the northwesterly swelling into a sheet of water which measured sixteen miles looking eastward from the camp to the Cabinet Range. This, which had an altitude of 7,000 feet was brownish yellow and bare and looked down upon the lake at an angle of forty-five degrees, the waters at the base very deep.

The July sun was hot, but at the 2,000-feet elevation the heat was not oppressive and soon a cool breeze set in from the lake. In a few minutes we reached the company's office; my baggage was unloaded; I presented my credentials to the superintendent and was taken to the hotel for dinner. After a hearty meal, for my journey and ride had given me a keen appetite, I placed my trunk and few personal effects in the back room of the store adjoining the office, which was to be my temporary lodging, and set out to see the town. This was very irregularly laid out, no sidewalks to speak of, no water or sewer system, and the population, at that time perhaps 1,200, housed in small unpainted rough buildings, usually having about three or four rooms. The majority of the residents were employees of the company which was then engaged in the construction of a modern saw-mill of large capacity on the shore of the lake.

I counted eighteen saloons, and on my remarking to my companion, that "the local thirst seemed to be well provided for," he replied that "there was none too many," as the camp was the metropolis of the northern part of the state, toward which all roads led as to Rome, and that here the "lumberjacks" came at intervals from the camps in the woods to "blow." I found later that most of the saloons kept open all night and had two shifts of barkeepers, the night man usually very busy until toward morning when he would roll up his coat for a pillow and take a much needed rest on a billiard table.

The camp had the usual "red-light district," and nearly all the saloons had a "game" going in a back room. The select gambling parlor, however, was in the principal hotel, where I was told the proprietor presided at the ceremonies with dignity and grace.

After a rather fitful night's sleep, my body not yet accustomed to the hard bed, nor my ears to the long drawn sigh of the sawmill which was running both night and day, I despatched an early and hurried breakfast and repaired to the office where I was introduced by the superintendent to the force and began my labors. I soon found that these were strenuous and all my resources were taxed to the uttermost.

The company, an eastern corporation, had recently bought the property on which was an old-fashioned "pony" mill which for many years had jogged along according to frontier customs, and now was establishing an up-to-date lumber manufacturing plant in accord with the most approved methods in use in the older lumber districts in the east. The new mill was in process of construction, and to feed this the company had acquired an immense tract of pine land tributary to the lake which made an ideal reservoir for the rafted logs.

My task as an accountant was to keep a record of all this activity; gradually to install a system of accounts which would not only safeguard income and expenditure, but also be so arranged as to permit the making of an annual report showing unit costs as well as the net profit or loss. Now to do all this is difficult enough even when a business is new, but to engraft a new system upon the old and carefully guard the records of many years of transactions, often still unfulfilled, is an undertaking which only accountants can appreciate. It would have been hard enough even with a luxurious office equipped with all modern labor-saving devices, but under the conditions which I shall describe, it often seemed to me that I was in the same predicament as the slaves of Pharaoh of old, compelled to make bricks without straw.

There may be parts of the world where manufacturers when starting new enterprises build and equip their offices first of all, but my experience, which is of many years, and extends from the Mississippi to the Pacific, has been that the office is the very last feature to engage the attention of the founders; and this plant in northern Idaho was no exception to the rule. The office building was merely a "lean-to," perhaps fifteen feet by forty feet, attached to a general store building, in which a large general mercantile business was conducted, chiefly for the benefit of the logging contractors and employees of the company. It was lighted by day by small windows at the side and a leaky skylight which in rainy weather required no little ingenuity on the part of the office force to prevent the place from becoming uninhabitable. By night (the regular public office hours, by the way, were 8 A. M. to 8 P. M. with half a day on Sunday) a defective acetylene gas plant, reinforced by coal oil lamps, dispelled the gloom. The gas plant was situated in the cellar beneath the office. Its water cooler required frequent replenishment and the boys were wont, when the gas burned dim, to carry down a bucket of water, pour it in the tank, and then dash hurriedly up the stairs lest the plant might explode. Several years after this, when the office was moved to a new and commodious building up town, it was found that within a few feet of the gas plant was a long forgotten case of dynamite, left there by the company's predecessors. It is needless to say that if the gas-plant *had* exploded, this chronicle would never have been written, for there was enough dynamite there to have blown the office into the lake.

Janitor service was, of course, unheard of, but the members of the office staff did what they could to preserve a semblance of cleanliness and order. This was not an easy task, however, as the constant stream of "lumber-jacks" with their muddy boots made a clean floor impossible.

All office supplies had to be purchased in Spokane—seventy miles away—and as wants could not always be rightly anticipated, many were the make-shifts to which we had to resort to keep the work in progress and a constant and accurate record of transactions. As is well known to accountants, ruled and printed forms should, if possible, be flexible in design and made to accommodate themselves to the business rather than the business to the forms. One of our exasperations was the receipt from time to time of printed forms and ruled books of account from the head office of the company in the east, with instructions that they were to be used. As these were designed by accountants who had never been west of the Missouri, and who had little conception of frontier conditions, they caused a lot of trouble. I can hear yet, sometimes, the long drawn profanity of the staff when a new lot arrived.

The company at that time did not operate its own logging camps, but let the work to contractors, some twenty-three, as I remember, none of whom was financially responsible. As these had, therefore, everything to gain and nothing to lose, the amount of watchfulness necessary to prevent their having a deficit may be imagined.

The company from its store furnished all these contractors with the requisite supplies—food-stuffs, clothing, tools, etc.—and, in addition, protected a number of local boarding houses which cared for the bodily wants of town employees. Our pay-roll, including the camp workers, as well as the local mill and lumber-yard employees, must have held six or seven hundred names, possibly more, and the little "lean-to" on the railroad "right of way" was the Mecca toward which all faces constantly turned. In theory the men were supposed to receive their pay monthly, but as a matter of fact it was almost daily. It was a common saying among the foremen and contractors that they had at all times three gangs, one coming, one going, and one on the job. This was literally true. The average time of the workers was about ten days. The "wanderlust" in those years was strong; nearly all were young, vigorous and unattached, and no inducement either of wages or board could hold them very long. Their restlessness was certainly not caused by the poor fare, not at least in the lumber camps. Lumber-camp cooks are famous, and all experienced contractors know the necessity of good food and good cooking if they are to hold the men at all. In my capacity as accountant I had occasionally to visit some of the camps, and years afterwards in distant cities I have often sighed in recollection of the bountiful tables with their amazing variety of foods which I encountered in the woods of northern Idaho.

As I say, our pay-day, owing to the constant change in the force, was practically every day, and from daylight to dark the men surged through the door of the office in a never-ending stream. There was no local bank, and currency had to be shipped by express from Spokane. Payment of time-slips was made as much as possible by bank cheques, but a certain proportion had to be paid in cash and our office safe at all times held several thousand dollars in paper and gold.

What a motley lot those woodsmen were with their mackinaw jackets, each with his bundle of blankets—for in those days a woodsman without his blankets was considered a "hobo" and regarded with suspicion.

"Mr. Macart, did you ever deal with river-pigs?" said one of the foremen to me shortly after my arrival. "No," I replied, "I never did." He smiled and went out. I opened the drawer of my standing desk and gazed thoughtfully at the 38 Smith & Wesson which, acting as a paper-weight for accumulated papers, rested peacefully thereon. I hoped I should never have to use it. I never did. On the contrary, I found the lumberjacks as a class, to be the easiest to deal with of any workmen that it was my fortune to brush against in an experience of twenty years. I discovered that all that was necessary to avoid friction was courtesy and patience and the realization that the training of a man driving a team or handling a "peavy" was essentially different from that of a bookkeeper. I confess myself not a little proud of my record of settling with thousands of these children of the woods during a period of three years without a single altercation. All that they wanted was their just dues, neither more nor less. It was evident to me, after a little experience with them, that the hard reputation they bore was due to the high-handed treatment they must at some time have had at the hands of an arrogant paymaster who, dressed in brief authority, had strutted his little hour.

The Nordic strain predominated among the woodsmen, fully 97 per cent., I should say, being of Anglo-Saxon, Celtic, or Scandinavian origin, and the cases of entire illiteracy were very rare. What eventually became of these wandering nomads I can only conjecture. I am sure, however, that they did not retire upon their savings, as nearly all of them spent their wages (earned in weeks and months of exhausting toil) in the saloons, gaming houses and brothels in a few days, after which they were ready to go back to work. Logging contractors have often told me since that after prohibition went into effect that they had more trouble with the lumberjacks than before, as while formerly they came into town every three or four months for a spree, which was over in a week, when they went cheerfully back to the camps, now they go the nearest city and live in idleness for two or three months. Evidently prohibition has not a few tendencies unforeseen by the W. C. T. U.

The saloons were important elements in the life of the camp, and I sometimes think were unconscious guardians of the peace. Fist fights, it is true, were common enough, so common in fact as to excite but a feeble interest, but hold-ups, robberies and murders were unknown. The lust for adventure spent itself harmlessly over the bars, and hard working citizens, abroad in the night, which was entirely unillumined, there being no street lamps, were as safe as when resting quietly in their beds. My days and nights were filled with toil, but there were compensations, and one of these was the contact with the quaint and original characters with which the camp abounded. With the passing of the frontier, and the gradual dying off of the men who made it; with ever-increasing standardization and mass production, and the struggle for existence yearly growing fiercer, individualism steadily declines, and there is only too good reason to believe that in another generation or so Americans will be as monotonously alike as billiard balls, and as void of originality and initiative as sheep.

One of the characters of the place was the pay-roll clerk in our office. He was a man then of sixty and one of the last of the Argonauts. An Anglo-Saxon colonial American, born in Pennsylvania, as I remember, who had been all through the civil war, and then as a young man of twenty-five had crossed the plains in '67. He had been a deputy sheriff in one of the tough counties of Wyoming in the early seventies, a log-scaler, a surveyor, a member of a professional orchestra, a steward, I believe, in an insane asylum, and had no end of avocations, the very names of which I have forgotten. He was a fine accountant, writing a microscopic hand like copper plate. He had read widely and painted in oil and water color, and very well. His talk was meat and drink to me, for he had a keen sense of humor and a repertoire of frontier stories seemingly inexhaustible—a most agreeable office companion with whom I never had any friction despite conditions which were often trying in the extreme. I treasure his memory.

For the first few weeks I slept in an unused room at the back of the company's store, taking my meals at the hotel, but later I moved across the creek which flowed through the center of the camp and set up my lares and penates in a third-floor back room of a building which housed a saloon and boarding house. This was a frame structure with a single story facing the street but three stories at the back where the ground sloped abruptly to the creek. The basement was used as a storage place for the drunks, the kind-hearted proprietor not wishing to turn out into the cold the poor prodigals who had spent their money with him. As the building was but a tinder-box, I had in mind the awkward possibilities which might ensue from the sparks from a drunken lumberjack's pipe in the basement, and accordingly procured a strong knotted rope which I kept in a safe place in case I should have to make a quick middle-of-the-night exit. Fortunately, I never had to use it.

The boarding house directly in the rear of the bar-room served very good meals and here I lived for a long time. There were eight of us at the table, its head being presided over by the proprietor. He was a genial host, swarthy in complexion, courteous in manner, and had one of the mellowest musical voices to which I ever listened. I could well imagine what it might do to an emotional jury upon whom it had often been used for J—— was a practised lawyer, and years before, I was told, had been a prosecuting attorney on the upper peninsula in Michigan. His wife, who did the cooking, was evidently of Latin descent and was said to be a Cuban. What J——'s activities were, I never clearly understood, but as near as I could make out, they were playing poker and looking upon the wine when it was red. Upon the kitchen table stood his law library which consisted of the statutes of the state of Idaho, and Remington and Ballinger's code. This seemed a slender array of legal lore, but it was sufficient, for J—— was a man of talent and I observed that when the young attorneys of the camp, of whom there were two or three, just out of eastern college law-schools, had hard legal nuts to crack, particularly criminal cases, they lost no time in hunting up J——.

I recall the following instance of his resourcefulness: One of the local characters was an irascible old fellow who lived alone in a cabin surrounded by a few acres of ground which he regarded as a sacredly private estate, and upon which he had posted a conspicuous notice, "No trespassing." A new-comer in the camp, not aware of the prickly character of the owner, had, one day when in haste to catch the train, attempted to cross the property, whereupon the old man rushed from his cabin, rifle in hand. There was an exchange of bad language, and then the stranger pressing on, the old chap took a shot at him. Luckily he missed and the intruder made a hasty retreat. He was naturally very indignant and, proceeding to the local justice of the peace, swore out a warrant for the old man's arrest. This was quickly served by the day marshal and the rifleman was lodged in the camp lock-up, a rude but strong log hut. Formal proceedings were instituted and an indictment was drawn of "assault with a deadly weapon with intent to kill." Meanwhile, the accused, who was of some means, had been liberated on bail and had retained one of the young lawyers to defend him. As usual when in difficulty he immediately hunted up J—— and placed the case before him. J—— looked thoughtful. "That is a serious charge, my boy, I don't know, I am sure. Was there a witness to this?" There was. The attorney named him. "Well, you give me a little time to think it over; come back in an hour." The youthful practitioner passed the time restlessly, but on returning found J—— smoking tranquilly. "Well?" he asked anxiously. J—— smiled. "I think I can fix it for you all right, but it will take $50.00. Do you happen to have that much with you?" He had. "Well, give me the fifty and then come to see me in the morning." Early the following day the young lawyer called and J—— said cheerfully, "Everything is all fixed; I don't think you will have any trouble." "But how did you fix it?" queried the anxious attorney. "Oh, that was easy. The witness to the shooting, I happen to know, had been wanting to get out of town for some time, but was broke and could not. I gave him the right kind of talk and the $50 and then saw him board the night train. Now when the case comes up for trial, you will deny the charge absolutely. The prosecution has no witness and it becomes a matter of veracity. They haven't anything to go on and the case will be dropped." And so it proved.

J——, as I said, sat at the head of the table. At the foot, and at my left, was the village schoolmaster. If someone had told me that he had been transferred bodily from the pages of Dickens, I think I should have believed it. A very grave, middle-aged bachelor, wearing always a frock coat of black broadcloth and a white cravat, he was dignity personified. He was very abstemious in the matter of stimulants, using neither tea, coffee, alcohol nor tobacco. He was reserved in manner and when he occasionally contributed to the table talk it was with careful deliberation. He was wont to say, "Well, there is a modicum of truth in it," in a judicial tone which had the air of finality, and set the seal of approval on questionable statements.

At the schoolmaster's left, and facing myself, was a professional gambler who was at once the most distinguished in dress and appearance of the assembled guests. I suppose he must have been a man of five and forty, very tall and erect with square shoulders and military bearing, strong, regular features, with dark hair and closely cropped moustache streaked with gray. He looked for all the world like a colonel in the regular army and was always immaculately dressed and groomed, as befitted his calling, though of this he never spoke, and in a pleasant, well modulated voice took his part in the conversation with the well-bred air of a man of the world. Now and then, when in a reminiscent vein, he might begin with, "When I was in the produce business in Tucson." We all knew well enough that he did not refer to the wholesaling of grains and fruits, but no one smiled. Invariable courtesy always ruled at that table. The gambler was quite musical in his tastes, and often of an evening would play the violin to a piano accompaniment. He was not a Fritz Kreisler or a Jascha Heifetz, of course, but really played very well, and was far from being merely a fiddler. About 9 P. M. he would don his overcoat and depart without a word. Everyone was aware that he was shortly due at the principal hotel, where in a back room he dealt at the stud-poker table until dawn. At the gambler's left sat his wife, a vivacious Frenchwoman, who was very agreeable indeed, and with her cheerful broken English gave spice and a charm to the talk of the table.

At her left, and at the right of our host, sat "Billy." I do not think we ever knew his surname. Perhaps he did not care that we should. He was still quite a boy—not over one and twenty, I should say, very neat in his personal appearance, and had much the air of a well bred undergraduate. "Billy" didn't talk much. Likely he thought it not in good taste for him to do so. Like the gambler, he earned his livelihood by working at night, but his job was playing the piano in one of those resorts of which everybody knows but nobody speaks.

At my right was a veteran bar-keeper of five and fifty who tended the night shift at one of the tough saloons. He looked as if he could talk a lot if he would; certainly he had had a wealth of experience. But he never did. He just sat and listened and did full justice to the well-cooked food.

At his right and at our host's left was placed the table's star conversationalist. He was a fashionably dressed man of forty, always wearing, like the schoolmaster, a white cravat. This, I suppose, was thought to be the insignium of his calling, for he combined in his own person the offices of village undertaker and superintendent of the Sunday school of the Methodist Episcopal church. He had none of the smaller vices but, I fear, some of the larger ones. He was popularly believed—at least by the unregenerate—to be the gay Lothario of the camp, and from an occasional private conversation which I had with him, I am inclined to think that the estimate was not unjust. But as an after dinner speaker he put all the rest of us, including our host, in the shade, and when billed, as he frequently was, for church and society addresses, he always rose to the occasion, the envy of all the young attorneys in camp.

As I look back after thirty years that peaceful dinner table seems one of the most enjoyable companies with which it has ever been my privilege to mingle. There was no "shop talk" whatever. For obvious reasons, no one—not even the undertaker or the schoolmaster, cared to discuss his business. Oh, I suppose I could have talked of mine, but after meeting contractors and lumberjacks all day I was glad enough to talk of something else. So we discussed politics and social philosophy, meteorology, hunting and fishing, music and the drama (the cinema and radio curses, thank God, had not then fallen upon us), literature and science and art, and the pariahs forgot themselves, and we forgot that they were, and all the strifes and jars of this queer world of ours were dissolved for the moment in an atmosphere of good feeling and good will. And many times since at sumptuous banquets in city clubs when with the coffee and cigars my neighbor has introduced the inevitable stock market and profit and loss, my mind has reverted wistfully to that little company of outlaws in northern Idaho.

The winters were not bleak and savage like those of North Dakota, the temperature rarely falling to zero, but there was a good deal of raw, sloppy, disagreeable weather, and we were always glad to see the spring. The summers were delightful. The breezes from the lake kept the air cool and sweet, and mosquitoes were unknown. In August when the distant Cabinet Range was brown and bare, the setting sun played upon it, the colors changing slowly from golden yellow to orange, to violet, to purple, and then just before the darkness fell, there lingered for a while the wonderful ashes of roses. Truly a symphony in color. On moonlit nights in midsummer after my day's work, which usually ended at nine, I often paced the sandy beach. To the east the range stood, a mighty barrier silhouetted against the sky, here and there a star looking over its summit. I often used to think of Keats' line, "And still they were the same bright patient stars." And the moonlight which made the waves into liquid silver, always brought back the passage from Dr. Bird's tragedy, so dear to school-boy hearts fifty years ago, "The moon, piercing the tissue of fleecy clouds, silvered the dew-drops on the corselet of the Roman sentinel, and tipped the dark waters of Vulturnus with a wavy, tremulous light."

Brave days, those! The most of us were young, and if we had hardships we could afford to laugh at them, as youth will do when hearts are light and life is new. The setting was romantic and the spirit of gay adventure in the air.

And now in my autumnal years, as I walk metropolitan streets and see through the plate glass well-dressed automata manipulating comptometers and adding machines, with a time clock staring them in the face, I can but think that life yielded me something that they have missed.

Principles of Investing

By A. W. Moser

The value of a security at any given time may be regarded as a combination of such variable factors as credit standing of the debtor, the conditions of the financial market, the rate of interest carried by the security, maturity date and the price to be paid on redemption. Among these variables the credit standing of the debtor occupies a peculiar position, inasmuch as it does not itself enter into the calculations as a numerical quantity, but merely expresses the expectation that the borrower will be willing and able to repay the values borrowed when due, and the degree of that expectation is mostly a matter of estimate only. While this implies that there is no absolute certainty of repayment and hence that the purchaser of a security or grantor of credit exposes himself to a certain pecuniary risk, however small, it will also be found that the other valuation elements are usually so fixed as to bear a definite relation to the credit risk. It is particularly the rate of interest to be earned on an investment that indicates diverse investing conditions. In other words, the credit element with regard to a given security being to a large extent determined by the guaranties, physical and moral, behind an issue, the interest rate an investor considers as an equitable return on his capital will normally vary, all other things being equal, with the value of those guaranties, or with the degree of safety of the principal and interest thereon. Whether or not a security carries definite redemption provisions does not alter that fundamental principle; there can only be differences of degree.

It follows, therefore, that the rate of interest practically includes a certain weighting to cover the so-called credit risk, which in its broader meaning is the possibility of both principal and interest, or any part thereof, becoming impaired at one time or another. That weighting, consequently, has the characteristics of an insurance premium and ought to be so fixed, in case that it were possible mathematically to regulate operations, that the value of the weightings would become in the long run equal to the losses that occurred, as the premiums charged by an insurance company make up for its losses. Such an exact procedure can not, of course, take place in the investment and credit-granting field, because, if for no other reason, the risk involved is relatively much smaller, generally speaking, although this does not mean that it is always negligible. The extent of the increase of the interest rate on account of the credit risk, however, is probably in most instances the outgrowth of mere estimates, based on personal experience, and may prove more or less sufficient according to the ability of an investor correctly to gauge the soundness of a security or of the credit to be granted.

In cases of actual impairment, it would be a problem of simple statistics for an investor to determine the relative number of his losses, their range, the proportion of their total to his total investments and the time of their occurrence. Barring all minor losses occasioned by market fluctuations, etc., it is no doubt safe to state that individual losses are relatively infrequent, on the one hand, and heavy, on the other hand. This is due to the fact that a man with funds for investment at his disposal, instead of buying a few hundred dollars' worth of securities of each of a correspondingly large number of different debtors will be more likely to invest larger sums in the securities of relatively few concerns, i. e., the number of different issues in a portfolio is usually small compared with the total amount. To carry the idea a little further by assuming that the weightings referred to are correctly fixed in relation to the risk they are intended to cover, one will at once find it apparent that unless a given portfolio be large and extremely diversified it would be fallacy to expect a balancing of surplus interest received and losses within short intervals, such as a year, for instance. Hence relatively few but heavy losses.

If it be conceded that the returns in the form of interest on an investment contain a weighting specifically included, although not segregated and usually not conceived as such, in order to cover an existing risk, it may justly be argued that this surplus interest should be husbanded with the purpose of compensating for losses when they occur.

A similar situation exists, of course, in most transactions involving the extension of credit, not only when buying securities. There is a difference in form to be noted as far as purely commercial credits are concerned, inasmuch as the rate of interest in the latter case is regulated more by customs of trade than by degree of safety, the latter factor, however, being taken care of by other means, such as terms, for instance.

In view of the circumstance, as follows from the foregoing remarks, that to investing and to credit transactions in general attaches a certain possibility of loss, it may truly be said that they contain an element of hazard. The question may therefore be asked whether it would be useful to apply to the subject certain laws of the theory of probability. If by doing so some additional knowledge could be gained with respect to the importance of certain principles often put forth, or a basis established for comparisons, the procedure would have proved its usefulness. Thus if there is value in a well known rule that diversification in investments is advantageous to safety, the same rule would gain in value if some measure of its influence could be obtained.

In order that the subject may be treated as a problem of probability it will be necessary, in the first place, to assume that the possible ways of occurrence of the losses be independent of each other. This means that the impairment of one security should in no way affect the degree of safety of other securities contained in a portfolio, and also that there be no systematic influences at work. These requirements will rarely be completely fulfilled in practice, as bad business for one company may easily affect in an adverse way the profits of other companies represented in a portfolio and thereby the value of their securities; and the consequences of systematic influences, such as those arising from a widespread, general depression, can only with difficulty be avoided. The possibility of such contingencies, however, shall for the purpose of the present investigations be disregarded as of negligible importance.

Accordingly, let the weightings in the form of interest be so regulated in extent that they will ultimately cover the losses normally to be expected in a given portfolio within a sufficiently long interval.

It is desirable, at this point, to insert definitions of a few terms used in the theory of probability.

"Mathematical expectation" is defined as the product of an expected gain in actual value and the mathematical probability of obtaining such a gain. The danger of loss may in this case be regarded as a negative gain. Thus if a person may expect a gain A from an event F whose probability of happening is p, then

$$E = pA$$

will be his mathematical expectation. For $p = 1/5$, $A = 100$, for instance, which means that the event will occur once on an average in each 5 trials, E would result as 20. E may also be considered as the price or equitable premium that a person (player) would have to pay to another person (contractor) who offers the prize A on the result of the event F, in order to be afforded the privilege to take the chance. In the above case, the player will have paid 100 units in 5 trials, thus making up for the prize he could expect in the same number of trials. So the player may be said to face two possibilities when taking the chance: he can either make the net gain $A-E$ with the probability

$$p(A-E)=p(1-p)A=pqA=qE=R,$$
$$\text{where } q=1-p,$$

or lose the premium paid with the probability q,

$$qE=R'.$$

R and R' are equal as to amount, in the example given $=4/5\times 20=16$. In a similar position he finds himself the contractor, R' being the expression for his gain and R the expression for his loss.

The quantity R has variously been termed "average risk" or "mathematical risk."

The equation $\frac{R}{E}=\frac{R'}{E}$ indicates the "relative risk," or the intensity of the expectation of gain and of the expectation of loss, respectively, without regard to the importance of the sums at stake. Since $\frac{R'}{E}=q$, the relative expectation of loss, or the danger of the game, increases in the same ratio as the probability of loss.

The practical significance of R and R' is as follows: R' is the equitable premium which the player would have to pay to the contractor referred to, or to another contractor, for the purpose that the latter compensate him for the losses he actually suffers (by losing the premium paid E), while R represents the premium by means of which the contractor on his part could insure himself against loss (when having to pay the prize A).

However, such a contract would not cover the player against every possible risk. As a consequence, merely his expectation of loss as well as, in equal degree, his expectation of net gain will change, i. e., diminish, since his payment is now $E+R'$, his possible net gain

$$R_1=p(A-E-R')=q^2E$$

and his expectation of loss equally $R'_1=q\ qE=q^2E$, because in the event of loss he will only get back his original payment E, but not the additional premium $R'=qE$.

To cover himself against this loss, the player would have to pay the new premium R'_1, whereupon his expectation of net gain would amount to

$$R_2 = p(A - E - R' - R'_1) = q^3E$$

in the face of an equally large expectation of loss

$$R'_2 = q^3E.$$

Continuing so to insure himself, the player could reduce his risk as far as he wished until nearing the meaningless limit where he pays a total amount A and certainly recovers an equally large sum, since his payments at the limit are expressed by

$$E + R' + R'_1 + R'_2 + \ldots\ldots = E(1 + q + q^2 + \ldots\ldots) = \frac{E}{1-q} = \frac{E}{p} = A.$$

If the contractor extended his activities to a number of mutually exclusive events $F_1, F_2, \ldots\ldots F_n$, whose respective probabilities of occurrence conform to the condition

$$p_1 + p_2 + \ldots\ldots p_n = 1,$$

by promising prizes $A_1, A_2, \ldots\ldots A_n$ on the occurrence of the corresponding events the total premium would be

$$E = p_1A_1 + p_2A_2 + \ldots\ldots p_nA_n,$$

whereupon the player's expectation of net gain, or his average risk, would amount to

$$R = \Sigma p_g(A_g - E)$$

if A_g designates all those prizes which are larger than E.

Conversely, his expectation of loss would be

$$R' = \Sigma p_s(E - A_s)$$

if A_s denotes all prizes smaller than E.

It further follows

$$R - R' = \sum_1^n p_iA_i - E\sum_1^n p_i = E - E = 0.$$

Hence $R = R' = \frac{1}{2}\sum_1^n p_i \left| A_i - E \right|$.

In an analogous manner the average risk of the second order could be derived:

$$R_1 = R'_1 = \frac{1}{2}\sum_1^n p_i \left| A_i - E - R' \right|, \text{ etc.}$$

It is important to note that with one and the same premium E the risk R may be quite different, according to the relative amounts of the individual prizes and the probability of obtaining them.

For example: Let a prize be offered of as many dollars as each face of a die bears points. The equitable premium to be exacted from the player amounts to

$$E=\tfrac{1}{6}(1+2+3+4+5+6)=\$3\tfrac{1}{2},$$

the risk of the game is

$$R=\tfrac{1}{6}[(4-3\tfrac{1}{2})+(5-3\tfrac{1}{2})+(6-3\tfrac{1}{2})]=\tfrac{1}{6}(\tfrac{1}{2}+1\tfrac{1}{2}+2\tfrac{1}{2})=\$\tfrac{3}{4},$$

and the relative risk $\tfrac{3}{4}:3\tfrac{1}{2}=\tfrac{3}{14}$, so that the player's premium will amount to $\tfrac{3}{14}E$, or $21-{}^{3}/_{7}\%$ of $E=\$\tfrac{3}{4}$, to protect himself against loss of his original payment E.

His total outlay will then be $\$3\tfrac{1}{2}+\tfrac{3}{4}=\$4\tfrac{1}{4}$, which is only exceeded by the prizes of \$5 and \$6. Hence the risk is reduced to

$R_1=\tfrac{1}{6}(\tfrac{3}{4}\times 1\tfrac{3}{4})=\$^{5}/_{12}$ and the relative risk to

${}^{5}/_{12}:4\tfrac{1}{4}={}^{5}/_{51}$. The insurance to cover the possible loss of the premium $R=\$\tfrac{3}{4}$ will then be ${}^{5}/_{51}$ or $9^{41}/_{51}\%$ of $\$4\tfrac{1}{4}=\$^{5}/_{12}$, etc.

Let now a general problem be formulated as follows: Establish a measure for the risk created by the possibility that a given capital A outstanding at the time t may not be restored unimpaired at the date of redemption n years hence.

It is obvious from the outset that any part of the principal A may become irretrievable by the end of the n years' period, so that part must be considered a loss. Thus a loss may constitute, when expressed in per cent. of A, rounded up or down to the nearest whole percentage, 0%, 1%, 2%, ... or 100% of A, each one of these possible events being associated with a certain probability p_i. Since one of the events must necessarily take place, it follows that

$$p_0+p_1+p_2+\ldots\ldots p_{100}=1$$

and $$E=(p_1+0.01+p_2 0.02+\ldots\ldots p_{100}\times 1)\,A=pA.$$

The probabilities p_1, p_2, ... are unknown quantities; nor do they need to be known, since the expression in parenthesis may be replaced by an average probability p, as indicated, this average value being either known from experience or determinable by statistical methods. It designates the most probable loss to be expected in the course of a given period. If the principal A represents a single debt and if p be understood as the most probable *annual* average loss, then the total loss in n years will be npA. This may occur at one time, perhaps in the course of the n^{th} year, while the preceding $n-1$ years would not have brought any loss. If on the other hand the principal is made up of many smaller sums, the total loss npA may also be conceived as the result of a number of part losses having taken place at different dates, each part loss either representing a total loss of a single one of the smaller sums or being composed of a number of part losses of such shares. In the second case there is a chance for the losses to be more or less evenly distributed over the given term.

The probability p may be assumed as standing in inverse proportion to the ability of an investor safely to manage his investments; hence if this ability be taken as constant, p can also be regarded as constant for any year within a specified period. A measure of the risk to be considered is then the average risk

$$R=\tfrac{1}{2}\sum_{1}^{n} p_r \left| A_r - E_r \right|$$

or, when only either positive or negative value combinations have to be considered

$$R=\sum_{1}^{\nu} p_r\,(A_r-E_r),$$

in which expression A_r and E_r indicate the outlays and receipts, respectively, which have taken place during the term under consideration, both discounted to the moment t. While the principal A is entitled to a fair interest, the corresponding credit may be regarded as balanced by the dividends due on the security.

To illustrate the problem two examples are presented.

Let g designate the weighting supposedly included in the annual interest and let g be assumed to be payable at the beginning of each year, while a loss would be charged off as of the end of the year. *No sinking fund is provided for.* Recalling that $E=pA$, $R=p(A-E)=qE$ and $p+q=1$, then, if the term is one year,

$$R_{(A)}=p(Av-g),$$

and if the term is $\nu=n$ years,

$$R=_{(A)}\sum_{1}^{n} p_r(Av^r-gv^{r-1}).$$

For $A=1000$, $n=10$ years, $p=\text{constant}=0.01$ and $i=5\%$, then $E=g=10$ and

$$R_{(A)}=\frac{1}{100}\left[1000\ a_{\overline{10}|}-10(a_{\overline{9}|}+1)\right]$$

where $a_{\overline{n}|}=\frac{1-v^n}{1-v}=$ present value of an immediate annuity of one per annum payable at the end of each year;

$$R_{(A)}=\frac{7721.73-81.08}{100}=76.4065,\text{ or } A\times 0.0764,$$

$$\frac{R_{(A)}}{E}=\frac{76.40}{10}=7.64,$$

i. e., the risk for the whole 10 years' period amounts to 7.64 times the annual weighting g.

For the second example, the same data as above are assumed, except that a sinking fund is formed, to which no further risk is attached by annual contributions of $\frac{A}{s_{\overline{n}|}}$, the principal remaining intact throughout the term. The amount at stake is therefore gradually reduced, being at any time equal to the difference between the sum outstanding and the sinking fund, or

$$R_{(A-S.A.)}=\sum_{1}^{10}0.01\left[\left(1-\frac{s_{\overline{r}|}}{s_{\overline{n}|}}\right)1000\ v^r-10\ v^{r-1}\right]$$

$$=\sum_{1}^{10}0.01\left(1000\ v^r\frac{a_{\overline{n}|-r}}{a_{\overline{n}|}}-10\ v^{r-1}\right)$$

r	$\frac{a_{\overline{n}\vert-r}}{a_{\overline{n}\vert}}$	$1000\ v^r\frac{a_{\overline{n}\vert-r}}{a_{\overline{n}\vert}}$
1	0.9205	876.70
2	0.8370	759.20
3	0.7493	647.20
4	0.6573	540.80
5	0.5607	439.30
6	0.4592	342.60
7	0.3527	250.60
8	0.2408	163.00
9	0.1233	79.50
10	......	......
		4098.90

Hence $R_{(A.-S.F.)}=\frac{4098.90-81.08}{100}=40.17,\text{ or } A\times 0.04017$

$$\frac{R_{(A.-S.F.)}}{E}=\frac{40.17}{10}=4.017,$$

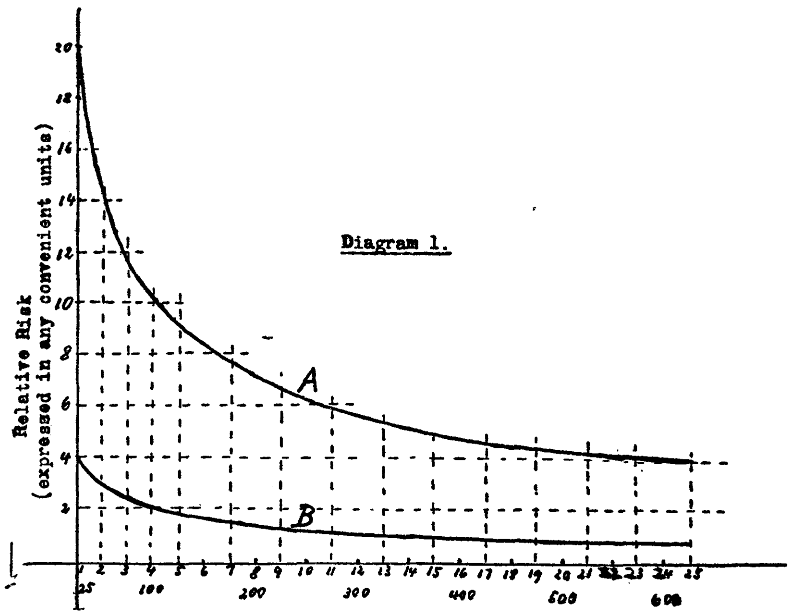
which means that the whole 10 years' risk would be covered by a single premium of 4.017 times the annual weighting g.

The two results reveal that in the case of a sinking fund the risk has been reduced 47.5%, or nearly 50%, as one would also expect on the ground of a general reasoning.

If there be a number of securities or outstanding credits, all identical as to class, term and amount, and consequently with the same average risk per unit of capital, then it may be shown that the total average risk is given by the equation

$$R=\sqrt{s\times A\overline{R}_0^{\,2}}=AR_0\sqrt{s}$$

and the relative risk $\dfrac{AR_0\sqrt{s}}{sgA}=\dfrac{R_0}{g\sqrt{s}}$ (see diagram 1).



Outstanding units of principal or accounts (all alike)

Curve A corresponds to numbers 1, 2, 3, ...
" C " " " 25, 100, 200, ...

The pace of the risk in diminishing is considerably slowed down with increasing number s, the relative risk nearing zero for limit $s=\infty$.

Suppose the s securities or credits equal in all respects except the amounts $A_1, A_2, \ldots\ldots A_s$, then

$$R=R_0\sqrt{A^2_1+A^2_2+\ldots\ldots A^2_s}$$

With regard to these formulæ some important deductions may be drawn:

(a) The total average risk of a group of equal securities or credits is obtained by multiplying the average risk of a single one with the square root of their number. The relative risk, which is derived by dividing the former with the total amount of premiums, is inversely proportional to the square root of the number s, as this number appears as factor in the denominator, and may consequently be reduced to any desired limit by increasing s.

It is this sentence that contains the mathematical basis for the correctness of the rule of diversifying investments, often recommended as favorable to safety, whereby the diversification should be of such a nature as to leave the individual contracts independent of each other.

These considerations also bring out the fundamental strength of the so-called investment trusts. In fact, to apply efficiently the principle just referred to, the investment trust is fundamentally in a far better position than the average individual investor, due to its greater material resources, representing a combination of those of many investors, and due also to the circumstance that with this advantage is likely to be coupled the one of the management more expert in the particular field, in general, than the average investor. An ordinary investor, in order to fare as well, should have something equivalent to those qualities inherent in investment trusts, such as specialized knowledge in a certain field, ability and opportunity to participate actively in the management of an enterprise, etc. On the other hand, of course, investment trusts also could not escape, should they fail to recognize it, the operation of that mathematical law as far as their purpose as a purely investing business is concerned.

(b) The sum of the squares of the expression

$$R_0\sqrt{A^2_1+A^2_2+ \ldots\ldots A^2_s},$$

if the total of $A_1+A_2+ \ldots\ldots A_s$ be constant, reaches a minimum when $A_1=A_2= \ldots\ldots A_s$, i. e., when the individual investments or credits are of equal amount. Inequalities in this respect increase the risk the more sharply single sums deviate from the average.

In a previous example the average risk for a given security was found to be $A\times 0.0764$. Suppose now that there are 100 such securities or credits, each of \$1000. Then

$$R=1000\times 0.0764\sqrt{100}=764.$$

In another instance with the same total of \$100,000, but composed of

1	at	\$20,000
2	"	10,000
5	"	5,000
20	"	1,000
2	"	500
70	"	200
100		

the value of R will result as

$$R=0.0764\sqrt{748,300,000}=2090,$$

and if it were all one sum,

$$R=7640,$$

i. e., the risk has grown to $\sqrt{s}$ times the value that resulted in the case of uniform diversification.

The premiums included in interest rates under the previous assumptions will, if properly husbanded, provide the investor with the means of absorbing the losses that may occur according to the most probable hypothesis. Any other amount of loss, greater or smaller, is to be expected with less probability. In so far as the actual losses do exceed the most probable amount, they must be covered by other means than the weightings g, or a corresponding deficiency of regular income will result. On the other hand, the average investor or money lender is naturally interested in maintaining his annual income as constantly as possible with regard to the units of capital employed. This in fact constitutes, if not an obligation, at least the tendency of any financial organism, and may assume in certain cases the features of a real necessity, thus acting as inducement to adoption of operating policies that will best assure the regularity of the returns.

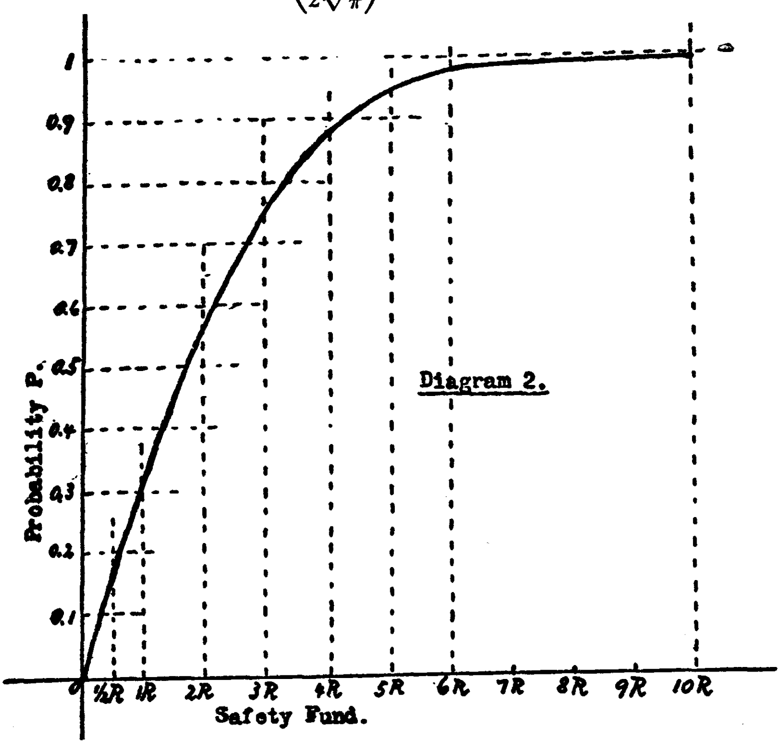
It may, therefore, prove of interest to examine the probability P that the total deviation of the actual losses from their most probable value, namely spA, will not exceed a given limit, say k times the average risk R. The theory of probability teaches that a connection exists between the values of k and P such that

$$P=\frac{2}{\sqrt{\pi}}\int_0^{\frac{k}{2\sqrt{\pi}}} e^{-t^2}dt=\phi\left(\frac{k}{2\sqrt{\pi}}\right),$$

where $t=\frac{l}{\sqrt{2\pi\, spq}}$ and l=a limit of the deviations, the symbols s, p and q corresponding to previously established definitions.

In the light of this relation the significance of R is that the loss (in excess of spA), or the total excess deviation, within a given period, if such a loss does occur, will not exceed the amount of kR with the probability

$$R_P=\phi\left(\frac{k}{2\sqrt{\pi}}\right) \text{ (see diagram 2)}$$



As the curve ascends rapidly for values of the abscissa up to $4R$ or $5R$ and then flattens out, it follows that any part of an extra fund in excess of $4R$ to $5R$ is fast losing in importance as a precautionary measure against losses. Hence, unless created for other purposes, reserves exceeding a certain determinable limit become rapidly far less commendable than one remaining within that limit.

Otherwise stated, a fund of kR units will protect an investor with even that probability against the risk of casual deviation of his actual losses from their most probable course.

To constitute such a safety fund, as it might be termed, the interest rates may be thought of as containing besides the premiums g an additional weighting g', which will be reserved for taking care of excess losses. There arises then for the investor the expectation of a gain even in case an unfavorable deviation from the most probable course should take place, as long as this does not exhaust the corresponding contributions $s \times g' \times A$. His gain from this source would even be greater, of course, in the event of the deviation resulting favorably to his interests.

The value of P for a few k's is given in the list below:*

k	Probability P
1	0.31006
2	0.57498
3	0.76863
4	0.88945
5	0.95392
. . .	. . . .
10	0.99993

Creating for the diversified portfolio totaling $100,000, heretofore mentioned, for which an average risk of 2090 was obtained, a safety fund of 5 times this amount, i. e., of $10,450, gives 0.95392 as the probability that the total deviation, if one does occur during the specified term of 10 years, will remain within the limits of the constituted fund or, which is the same thing, that an eventual loss (in excess of spA) will not exceed $5R$. Similarly to cover the uniformly diversified portfolio of $100,000 with a total average risk of 764, a fund of only $3,820 would be required.

Instead of making use of the function $\phi\left(\frac{k}{2\sqrt{\pi}}\right)$ one may obtain approximate results by means of a theorem established by Tchebycheff, which may be expressed as follows:

"The probability that the absolute value of the total deviation will not exceed 0.399α times the total risk

$$R = \sqrt{R^2_1 + R^2_2 + R^2_3 + \ldots\ldots}$$

is $> 1 - \frac{1}{0.16\alpha^2}$,

where α is a number merely subject to the condition that $0.16\,\alpha^2 > 1$."

* Derived by means of table I in *Wahrscheinlichkeitsrechnung* of Emanuel Czuber.

The results thus derived are approximate in so far as they do not represent the narrowest limits corresponding to a given probability. For $a=5$, for instance, the theorem would only make known that the probability P of the total deviation not to exceed $5R$ is greater than $\frac{3}{4}$, while this probability actually amounts to $\frac{95392}{100{,}000}$.

The larger the fund kR, the more secure, naturally, is the position of an investor with regard to casual unfavorable influences. It should be noted, too, that for a given k the fund will result differently according to whether it is intended to cover the risk in question for only one year, for instance, or for a more extended period. The fund will obviously be smaller in the former instance than in the latter case. Their ratio, however, is quite diverse from that of the time intervals on account of the fact that a larger interval offers a greater possibility for a balancing of losses and gains.

From the preceding theoretical considerations the following conclusions of practical consequence may be deduced:

(1) Losses will always occur in investment and credit transactions in general because of the credit factor, this being merely the expression of a moral expectation, thus introducing the element of incertitude. Hence, in order best to assure regularity of returns, reserves should be established at a rate which experience indicates as desirable.

(2) The risk of loss is considerably reduced for a given debt if a sinking fund is provided.

(3) In the case of a number of units of principal the relative risk will be smaller, and consequently the relative premium or reserve required to cover it will be smaller,

(a) the larger the number of units of principal (see diagram 1, page 30)

(b) the less single sums deviate from the average.

These points particularly apply also to the accounts receivable of any commercial enterprise.

(4) The percentage of losses of a business firm supposedly maintaining the same credit policies should gradually, although slowly, diminish with increasing number of accounts, due to the general relation $R=AR_0\sqrt{s}$ (exact equality if all accounts were of the same kind and subject to the same risk).

(5) Reserves built up on the basis of a ratio derived from a sufficiently long experience may be taken to cover, in the future, as the most probable case, the same proportion of losses in relation to the units of capital employed. To offset any excess loss would require, of course, additional reserves (safety fund), which would cover the risk within the limits of a like amount with probabilities as indicated in diagram 2 (page 33). Such reserves, as will also be noticed, are relatively most useful in so far as they are kept within certain, rather definite limits. Reserves to this extent are consequently the most commendable.

Base-stock Inventories

By Louis G. Peloubet

The theory of the base-stock inventory is that regardless of the particular particles making up the normal stock the combined whole is always on hand unchanged as a whole. When first accumulated it is taken at cost and being essentially identical from year to year is continued from year to year at that original cost.

Such a theory necessarily presupposes a product or material constant in quantity and interchangeable in its particles. It is likened to a river: the stream is always there although the drops of water composing it change from moment to moment. The base-stock inventory stream is not for sale and although the particles composing it are constantly supplanted the stream itself remains unchanged. It is this stream which is priced at the constant figure of original cost—not the particles composing it.

In stressing the fact that the method is not of general application and ignoring the other fact that in the comparatively few cases where it does apply it is the correct method, many writings on the subject fall into the way of condemning a sound principle on the ground that it does not reach beyond its legitimate scope.

The treasury department is on record on the subject in T. B. R. 65 (1 C. B. 51), the pertinent portions of which are:

"The facts before the advisory tax board do not warrant the conclusion that there has been any general adoption of the base-stock method of taking inventories as an 'accounting practice,' or that it has had any considerable recognition as the 'best' accounting practice. On the contrary, it is certain that the method has not been widely adopted. . . . Probably more than 95 per cent of the manufacturers and dealers in this country—certainly a very large majority of them—keep their books in accordance with methods other than the base-stock method. . . . The 'best accounting practice' set up in Sec. 203 as the guide or standard for the commissioner must be a practice which not only clearly reflects the income but which has been 'regularly employed,' presumably for a number of years, by a majority of the taxpayers involved. A procedure to become a 'practice' must be widely used and must have withstood the changing tests of time. In particular, the fact that so few business concerns use these base-stock methods is strongly suggestive of the truth that it does not truly reflect the income. . . . The effect of the base-stock inventory method is to assign all profits and losses in respect of the minimum inventory to the year in which such inventory is liquidated. This result is accomplished through ignoring sales and exchanges of individual items of the inventory and treating the minimum inventory as a unit. . . . In some cases highly conservative business concerns reckon trading profits by comparing current costs with current sales, disregarding basic inventory gains as quasi-capital gains; but even such concerns do not ordinarily disregard inventory losses. This makes it clear that the basic stock method is a mere counsel of conservatism, which ignores quasi-capital gains from motives of prudence. . . . The advisory tax board, therefore, concludes that the base-stock inventory method does not 'most clearly' reflect income. . . . The fundamental theory underlying this method is unsound. . . . The usual practice and general object of the basic method is to get the base or constant stock at a figure below cost and hold it there. It arises, not from a desire to measure capital and net income accurately, but to play safe, stabilize profits, and provide reserves against possible future losses. It is a result of essentially the same policy and theory which lead bankers to write down their buildings to a nominal figure and to accumulate hidden reserves. . . . A distinguished British commission—the committee on financial risk attaching to the holding of trading stocks—after a thorough investigation and analysis of this subject, decided against the base-stock method of inventorying in its report submitted December 5, 1918. (Cd. 9224, 1919.) 'Accountants,' the committee found in Great Britain, 'with a few exceptions, consider that these practices (the base-stock method of inventorying and the practice among bankers of writing down buildings, accumulating secret reserves, etc.) misrepresent the facts.' . . . And again, referring to the fact that the British board of inland revenue has felt compelled under court decisions to recognize the base-stock method in certain industries, the committee adds 'And it appears that in the absence of a statutory definition the board of inland revenue has felt itself unable to contest the base-stock system of valuation where it has prevailed. As the practice is repugnant to the views which government and the majority of this committee hold as to the correct system of accounting . . . this concession has not been extended beyond the point of obligation.' . . . The reasons above stated lead to the conclusion that the base-stock method does not conform to the requirements of the revenue act of 1918. This conclusion does not, of course, preclude a taxpayer who values his inventory at cost and who retains identifiable goods year after year from attaining the result with respect to the identifiable goods so retained which would be attained through the use of the base-stock inventory method."

Thus the T. B. R. expresses disapproval of the base-stock principle and in the cost method (the whole purpose of base-stock is to use true cost) and in the inventorying of specified items at the known cost of those identical items, regardless of length of time on hand, approves its use.

Article 102 of regulations 74 reads, in part: "Inventory rules can not be uniform but must give effect to trade customs which come within the scope of the best accounting practice in the particular trade or business. . . . Goods taken in the inventory which have been so intermingled that they can not be identified with specific invoices will be deemed to be the goods most recently purchased or produced" and prohibits using a constant price for so-called normal quantity as not in accord with the regulations.

The latest example of such reasoning is the recent decision of the supreme court in the *Kansas City Structural Steel Co.* case.

The board of tax appeals in that case (11 B. T. A. 877) said:

"The . . . base-stock method of inventory . . . does not conform to the best accounting practice in trade or business, . . . has not been widely adopted and to sanction it in the case of the very small minority of taxpayers who have used it, . . . only for a period of a few years, would work an unjustifiable discrimination against the great majority of manufacturers and dealers who have not. . . . The effect of the minimum inventory method is to assign all profits and losses to the year in which this minimum inventory is liquidated. In fact, however, each sale or exchange of the individual items of the inventory is a realization of taxable profit or deductible loss in the year in which it occurs and a method of accounting which disregards such realization does not truly reflect income. . . . It is taxable when realized. The practical result of the use of this method of inventory is to offset an inventory gain of one year against an inventory loss of another year rather than to assign to each year its true gain or loss. Its use arises from a desire to play safe and provide reserves against possible future losses. . . . Some undeterminable part of the steel on hand in 1916 remained during the taxable years. All material of like dimensions was piled piece upon piece in perpendicular piles with the result that the material most recently purchased was in fact first used. If petitioner had used some means to identify the material so that its inventory could have been priced at cost, it might have obtained a more favorable result. . . . The material in the inventory, however, is unidentifiable and there has been offered no basis upon which we can determine cost of the inventory."

Further on this subject the board says in *Hug & Sarachek Art Co.* (14 B. T. A. 990):

. . . "These items had been in stock for a number of years, were on hand in 1919, and as the witness . . . testified 'were in the same condition in 1919 as they were at the end of 1920.' This being the case, any loss in respect thereto was sustained in a prior taxable year." . . .

And in *Francisco Sugar Co.* (14 B. T. A. 1062):

"Under the income-tax laws it is generally true that gains are not to be included in income until some transaction takes place by which such gain is realized and, conversely, losses are not deductible until sustained in a like manner. Fluctuations in value ordinarily play no part in the computation of taxable income. In this respect, as in many others, the computation of net income for tax purposes may differ from the computation of net income for other purposes. For this reason that which constitutes good accounting for certain purposes may not be proper accounting in computing taxable net income."

From the board the case went to the circuit court of appeals and the decision there (33 F–2nd–53) was not based on whether or not the base-stock method of inventorying is legitimate but upon the permanence of the material in question, reading, in part:

"An Iowa farmer who owned $150 an acre land in 1916, and who sold it in 1924 for $150 an acre, can not be taxed because in 1918 or 1919 it had a market value of $300 an acre. This analogy, it is true, overlooks the specific individuality of two identical girders which may be interchanged one day with the next—'borrowed' and 'replaced.' But that is of the form rather than of the substance. The appellant derived no income during the years from the ownership of this emergency supply; it was a part of its equipment for doing business; its business was such that it was not necessary to include it in the inventory to arrive at actual income; so to consider it distorts, rather than reflects, the true income of the taxpayer. This decision is necessarily confined to the facts of this particular business. If the appellant were a merchant or a manufacturer, where inventories were necessary to arrive at income, it must take into account all of its stock, and can not set apart a 'minimum' inventory. If the appellant, a builder, used this emergency supply for tucking away profits actually made, it could not escape. If there was bad faith, or an excessive reserve, it would be otherwise. If it liquidated the pile and took its profit, it must pay. But these are not the stipulated facts."

The supreme court in reversing the lower court goes into the principle of the method, saying it "results in offsetting an inventory gain of one year against an inventory loss of another, obscures the true gain or loss of the tax year and, thus, misrepresents the facts. It does not conform with the general or best accounting methods and is apparently obsolete," speaks of "the discarded base-stock method" and refers for support to the "well reasoned" T. B. R. 65, to various prohibitory regulations and to 1 Montgomery, *Income Tax Procedure* (1926 ed.) p. 712 and Klein, *Federal Income Taxation* (1929) 14: 13 (d) p. 375, as approving such prohibitions.

Let us examine these authorities:

Klein, p. 375, states that the base-stock method is not sanctioned by good accounting practice and refers to T. B. R. 65 for a comprehensive analysis of the method.

Montgomery, p. 712, classes the base-stock method as a technical departure from good accounting practice; refers to a paper by H. B. Fernald read before the American Mining Congress (1923) for a discussion of this method; on p. 729 and 730 states the treasury has gone on record as being opposed to the 'so-called base-stock' method and for a full discussion refers to Montgomery's *Auditing, Theory and Practice*, vol. 1 (1921 ed.) p. 117 to 172. Turning to that book we find on p. 124: "The selection of a low, fixed price for raw materials is a practice which was adopted many years ago by some of the most successful and far-seeing business men." Continuing, p. 125 states objections to the base-stock method but says, "On the other hand, the method has much to recommend it," and "In the opinion of the author, the method was adopted by enough concerns to justify calling it good accounting practice."

Mr. Montgomery, therefore, is one of the few writers recognizing an essential distinction, condemning the method for general use and approving it for specific cases; making it clear that in any particular case the question is not the legitimacy of the base-stock principle but its applicability to the particular case. It is probable that the attitude of the treasury led many to discontinue the practice. On the other hand the previous use of the method by oustanding successful concerns justifies the conjecture that if it had not been for the war the practice would have spread.

Mr. Fernald's paper reads, in part:

"We all know that no manufacturer would consider that he really made any profits in 1917 unless he sold his product at a price more than sufficient to cover the cost of replacing at 1917 prices the raw materials which he had consumed in manufacturing that product. The department would, however, hold that his profits for the year 1917 are to be measured on the basis of low-priced materials he may have bought in previous years and that high-priced materials purchased in 1917 are, to the extent of any quantity remaining on hand at the end of the year, to be carried forward by inventory against future years' operations. Probably no decision of the department has worked greater hardship on the business interests of the country than has this decision, which denies to the taxpayer the right to charge off against his sales or production for the year the cost of the raw materials purchased during that year to replace consumption."

Mr. Fernald makes this comment after having pointed out that the department adheres to a general principle of "first in, first out" except that "if goods sold or used can be identified with specific purchases these specific amounts may be charged off as the cost of goods sold, or if the goods remaining on hand at the date of inventory can be identified with specific purchases the actual purchase price may be used in pricing the inventory."

The severe criticisms of the base-stock theory quoted above are more apparent than real, for they evidently refer to the use of that method where circumstances do not warrant its use. The point is that such criticism overlooks the fact that there are situations where it does properly reflect the income; where it is exactly the opposite of the writing down of buildings and accumulating secret reserves; where it is the only way to represent facts; where it is the best accounting practice; where it has been in use for years and not discarded; where the fundamental underlying theory is sound and where the sole purpose of its use is to measure income accurately.

The office of the year-end inventory in the operating statement is elimination, not valuation. The purpose of the inventory entry is to remove from the profit-and-loss calculation something that never went into the sales' cost—to leave it as if the inventory had never been purchased or produced. Reduction of an inventory below cost is rather a balance-sheet matter affecting surplus, not income. To hold that operating income can be truly stated by taking out left-over goods or material at less than they went in at and by taking out "constant" goods or material at a different price than they went in at is illogical. If the base-stock is the same stock at the beginning as it is at the end it clearly, even under the above apparently adverse authorities, should be taken at original cost.

For obvious reasons the accountant can not blindly accept decisions of the courts and taxing authorities as decisive of accounting questions from a purely accounting viewpoint. The much cited *Eisner* v. *Macomber* case is an example. The treasury department in regulations 33 (art. 106) *considered* stock dividends to be income and in regulations 45 (preliminary ed. art. 1544 and 1919 ed. art. 1545) went further and stated that they *are* income. The court did not decide they are not income; it decided that congress has not power to tax them without apportionment *as* income.

Accountancy in the Credit Department

By Arthur S. Burton

Twenty years ago a bookkeeper who could make a balance-sheet and close his own books was considered an expert. Then came the art of accountancy, and its development within the last ten years has been remarkable. At first the accountant was employed to find out what had taken place within stated periods and to check the accuracy of what was recorded in the books of record, thereby verifying the assets and liabilities as shown in the balance-sheet made from such records. If an accountant today can not do more than picture past history for his client he is of little value, for almost every bookkeeper who has taken a book-keeping course can do the same service for his employer.

Since this is the case the question arises "What value is the accountant to present-day business?" The answer is obvious, as it is only through diagnosis of past history that future policies can be outlined, and a credit manager who is equipped with a sound, practical knowledge of accountancy is far superior to the man who is not versed in the values of a balance-sheet even though he may possess knowledge of business law and bankruptcy matters.

It must be pointed out that the credit department's main function is to prevent selling to financially irresponsible firms and persons, and the department can not perform its duties in a satisfactory manner unless it is managed by someone who knows thoroughly what the individual items on the balance-sheet mean as to values in a going concern as well as in case of liquidation. There is a vast difference between the two values, yet it should be within the knowledge of the credit man who knows his business. It is only through coming in daily contact with concerns which are in financial trouble that one realizes the value of being able to discover accurately and quickly what causes contribute to a condition involving a creditors' meeting or bankruptcy proceedings. It is surprising to find how little many credit men really know about accounting.

Not long ago a partnership doing business under a trade name got into financial difficulties. At the first creditors' meeting the fact was disclosed, for the first time, that the concern really was a partnership consisting of husband and wife. A balance-sheet was submitted, which showed on the face that the enterprise was solvent. The condition was apparently brought about by domestic trouble and a committee of creditors decided to ask the courts for an order to continue the business for ninety days under a trusteeship, for the preservation of assets. This was granted and at the end of that period an amended balance-sheet was submitted which showed insolvency, although a profit had been made during the ninety days' operation. How did this condition come about?

It must be pointed out that at the first meeting the creditors' representatives were mostly legal men who took the figures as presented at their face value. At the second meeting the amended balance-sheet contained a loan of $4,000, which the husband had assumed as a personal matter. When he realized that his wife had started proceedings for her share, he had the amended figures submitted. Under examination he admitted that his wife had in her name a piece of property consisting of a house and lot, in a good residential section on Long Island. It also appeared that this property had been purchased with money taken out of the business from time to time. The assessed valuation was $10,500 and the deficit on the amended balance-sheet was $3,000, but the property was not contained among the assets. At this point accountancy suggested a line of procedure and the partnership agreement was brought forth, duly signed by both parties, which plainly stated that they were to divide equally any profits made and equally assume liabilities and losses. A new balance-sheet was made with the added asset of property which at that time was salable at about $18,000. The creditors were eventually paid in full over a period of nine months and today the business is making money. Had not the principle of accountancy been applied in this case it is doubtful if the creditors would have been paid fifty cents on the dollar, for it is safe to assume that the property would not have been brought into the picture. It was examination of the cheque books and the discovery of large cheques drawn which first furnished the clue to the real situation.

Frequently when a concern gets into financial distress the debtor endeavors to bolster up his condition in the hope that the creditors will practically finance him or he endeavors to conceal assets if he has the least idea that the creditors will not help him by extension of time.

In the first case, the question as to what caused the distress, together with the possibility of conversion of assets into cash, must be decided before any plan of action can be made. If capital is tied up in the form of seasonable or obsolete merchandise which can not be turned into cash for months, it is quite a serious problem to decide whether extension of time can be profitably granted, as it undoubtedly would require new merchandise to carry along over the dull period. Where $20,000 was involved in an original distress it might easily amount to $40,000 if extension was granted. Decisions of this kind can not be made without looking at the facts, and no one is better equipped to do so than a man who knows accountancy.

The second case has to be viewed from a different angle. There may be loans from sources which are practically impossible to trace. How then can one decide what is right? The accountancy law of averages furnishes a good basis for procedure. It is easy to find the "mark-up" and percentage of gross profit the business yielded, and by working backward one can ascertain what amount of merchandise should be on hand, if any records are kept. It is quite an education to see how records of business are kept in the small retail enterprise, but although they are meagre it rarely happens that the cheque book can not give the clue desired. The problem presented therefore resolves itself into one of accounting.

Some business houses think they have solved the bad-debt problem by setting up a reserve for bad debts. It must be remembered that bad debts come out of profits and are therefore a loss to the business. One can not take care of them in cost of manufacture or cost of goods sold, and the only logical plan is to try to prevent the loss. While it may prove interesting to record the main causes which lead up to the doubtful and bad accounts, which eventually find their way to the debit side of the reserve account, it is too lengthy a subject at this time. One or two instances may suffice to bring out the main points regarding balance-sheet figures.

Under-capitalization is one of the most frequent problems with which a credit man has to contend when considering on a credit application in the case of a man opening up a business for the first time. For example, let us assume that John Doe starts a retail business under the trade name of "The A 1 Store" and submits a statement as follows:

Cash in bank	$5,000	
Store building	25,000	
Furniture and fixtures	4,500	
		$34,500
Mortgages	$18,500	
Accounts payable	4,000	
		22,500
Net worth		$12,000

This is a typical example of balance-sheet presented when a business is started. Naturally a credit man who did not know his accounting values would assume it would be a good risk. Suppose, however, that John Doe has borrowed $4,500 of the cash in the bank from his wife or some other relative. Then, again, on what basis is the valuation of $25,000 in the building computed? The situation would be vastly different should the equity in the building be wiped out through forced sale, and one can readily understand a wife's demanding her $4,500 in case of failure. Of course, a man submitting a false statement can be held for fraud and the penalties are severe if the charges are proved. The point is that it is in the power of the credit man to demand information as to whether capital is owned or borrowed at the time the statement is submitted and to refuse credit unless it is given. If a firm loads a store of this kind with, say, $6,500 in merchandise, with terms of half cash down, balance thirty days, it can be seen at once what working capital is left. There is one man who is the state's guest for filing a false statement, and several concerns are in difficulties through lack of working capital due to overstocking which could have been prevented if the credit man had limited the initial purchases. Putting a man in jail does not pay his debts, but the law must be upheld in order to safeguard business.

Sometimes a debtor who is falling behind can be brought back and put on the good list again, through a little coöperation by the credit man. It must be admitted that the average retail man knows very little about keeping books or running his business on a scientific basis. Consequently when payments are not forthcoming it is the duty of the credit man to see what he can do to remedy the trouble. A conscientious retailer will welcome any advice and help he can get. A concern got into difficulties and the investigator who visited the store found the following facts through inquiry and examination of the records:

Population of town, 12,000.
Two other stores in similar business.
Mark up, 50%.
Annual sales, $12,000.
Rent of store, $100 a month.
Value of inventory at cost, $9,000.
Number of creditors, 52.
Accounts payable—overdue 6 to 8 months.

One day average from source of supply:

Cash in bank	$125	
Inventory	9,000	
Accounts receivable	400	
Fixtures	750	
Total assets		$10,275
Bank loans	$500	
Accounts payable	4,500	
Original investment	5,000	
Capital earned	275	
Total liabilities and capital		$10,275

This is a picture which is familiar to every credit man. How did the business get into this condition? The causes were, first, overstocking with the mistaken idea that everything had to be carried in quantity; second, competition by two other stores; third, frozen capital in seasonable goods. When these facts were pointed out to the owner he was amazed at what they really meant and a meeting of the principal creditors was arranged to see what could be done to relieve the situation. The stock was examined and about $3,000 was taken back. Notes, over a period of one year, were given to clean off the balance of the old indebtedness. It was agreed between the debtor and principal creditors that his purchases were to be only what were absolutely necessary to run the business and a limit was set on the amount. The current account was to be discounted. Now, after a period of two years, the concern is in fine condition. The owner did not realize the serious state of his affairs and indeed it is amazing to find the number of retailers who are on the verge of impairing their credit through ignorance of accounting principles.

Students' Department

H. P. BAUMANN, *Editor*

AMERICAN INSTITUTE EXAMINATIONS

(NOTE.—The fact that these answers appear in THE JOURNAL OF ACCOUNTANCY should not cause the reader to assume that they are the official answers of the board of examiners. They represent merely the opinions of the editor of the *Students' Department.*)

EXAMINATION IN ACCOUNTING THEORY AND PRACTICE—PART I

May 15, 1930, 1 P. M. to 6 P. M.

The candidate must answer the first four questions and one other question.

No. 1 (38 points):

You are engaged by the X Company, Inc., manufacturers of cotton cloth, to prepare (a) statement showing cost per pound of cloth sold, (b) profit-and-loss statement for the year 1929 and (c) balance-sheet as at December 31, 1929.

A trial balance, taken from the books and covering the period from June 19 to December 31, 1929, was as follows:

	Dr.	Cr.
Property—real estate and plant (cost)	$ 676,170	
Investments	378,114	
Cash	86,425	
Accounts receivable	17,444	
Inventories, January 1, 1929:		
Raw material—cotton	69,080	
In process	62,437	
Finished goods	86,940	
Fuel	2,097	
Mill supplies	4,910	
Property maintenance	815	
Purchases—raw material	77,594	
" —fuel	4,600	
Expenses	2,116	
Insurance	1,546	
Mill supplies	7,389	
Repairs	3,488	
Property maintenance	2,242	
Taxes	4,023	
Water rent	4,310	
Labor	116,043	
Brokerage	2,770	
Executive salaries	6,400	
Prepaid insurance	2,154	
Bad debts	450	
Yarn account		$ 6,250
Accounts payable		4,362
Sales—finished merchandise		328,757
" —waste		13,250
Reserves:		
For depreciation		384,126
" plant improvement		100,000
Income from investments		8,844
" " rentals		2,233
Wages and salaries accrued		9,128

Capital stock:		
Preferred		$ 400,000
Common		200,000
Surplus and profit and loss		162,607
	$1,619,557	$1,619,557

The items following, representing transactions from January 1 to June 18, 1929 (inclusive), were transferred to the profit-and-loss account as at the latter date:

Sales—finished merchandise		$ 241,882
Purchases—raw material	$ 71,128	
Fuel	4,760	
Expenses	2,279	
Insurance	2,100	
Mill supplies	7,845	
Repairs	3,764	
Property maintenance	1,285	
Taxes (local)	3,600	
Water rent	4,250	
Yarn account	6,250	
Labor	100,468	
Brokerage	3,001	
Executive salaries	4,400	
Income from investments		6,494
" " rentals		1,946
	$ 215,130	$ 250,322

The inventories, by pounds, were as follows:

	Jan. 1 1929	Dec. 31 1929	
Raw material	306,663	150,155	
Goods in process (estimated 50% completed)	101,752	104,287	
Finished product	86,229	23,343	
Purchases of raw material during the year			557,706 lbs.
Waste sales during the year			214,214 "

In the preparation of the cost statement, all manufacturing expenses, with the exception of labor, may be grouped under one caption.

Because of an internal check by processes and accurate waste records, it has been customary to value the inventories on the basis of the cost statement.

Depreciation on fixed assets was determined to be $26,541.

Solution:

The main point in the problem is the valuation of the inventories of raw material, goods in process and finished goods as at December 31, 1929. The raw-material inventory is valued at the cost of the purchases, i. e., $.26667 per pound on the theory of "first in—first out." The finished-goods inventory is valued at cost, i. e., $.94895 per pound. Both of these valuations were obtained from the statement of cost of goods manufactured and sold (exhibit B).

To compute the value of the labor and manufacturing expenses applicable to the goods-in-process inventory at December 31, 1929, it will be necessary to determine the quantity of finished product manufactured during the year. The labor cost and the manufacturing expenses divided by the quantity produced will give the cost per pound of labor and manufacturing expense. The cost per pound of the goods-in-process inventory will be made up of one-half of the cost per pound of labor and manufacturing expense thus determined plus the cost per pound of raw material in the inventory.

Number of pounds manufactured:	
Goods in process, January 1, 1929, ½ of 101,752	50,876
Units requisitioned into production, less waste sales	500,000
Total	550,876
Deduct—goods in process, December 31, 1929, ½ of 104,287	52,143.5
Number of pounds manufactured	498,732.5

Labor cost per pound:

$216,511.00+498,732.5=$.43412.

Manufacturing expense per pound:

$95,552.00+498,732.5=$.19159.

Inventory—goods in process, December 31, 1929:

	Pounds	Price per pound	Total
Material	104,287	$.32902	$34,312.62
Labor	52,143½	.43412	22,636.67
Manufacturing expense	52,143½	.19159	9,990.16
Total cost			$66,939.45

Income from rentals is treated as a reduction of manufacturing expense, although it might be considered as other income in the profit-and-loss statement. It may be intended that the executive salaries be included as a part of manufacturing expense, but, because of insufficient information, these salaries are shown as administrative expenses. It should be noted that no mention is made in the problem of any inventories on hand at December 31, 1929, of fuel, mill supplies, or property maintenance.

Key to adjustments:

(1) To transfer fuel, mill supplies, and property-maintenance inventories of January 1, 1929, to the expense accounts.

(2) To reverse the entries to profit-and-loss account of the transaction from January 1, to June 18, 1929 (inclusive).

(3) To set up the depreciation on fixed assets.

"X" Company, Inc.

Balance-sheet—December 31, 1929

Assets

Current assets:			
Cash		$ 86,425.00	
Accounts receivable		17,444.00	
Inventories:			
Finished goods	$ 22,151.42		
Goods in process	66,939.45		
Raw material	40,041.43	129,132.30	$233,001.30

Prepaid insurance			$2,154.00
Investments			378,114.00
Fixed assets:			
Property—real estate and plant (at cost)		$676,170.00	
Less—reserve for depreciation		410,667.00	265,503.00
			$878,772.30

Liabilities and net worth

Current liabilities:			
Accounts payable		$ 4,362.00	
Accrued wages and salaries		9,128.00	$ 13,490.00
Net worth:			
Capital stock:			
Preferred	$400,000.00		
Common	200,000.00	$600,000.00	
Surplus:			
Balance, January 1, 1929	$127,415.00		
Net profit for year ended December 31, 1929 (before federal income taxes)	37,867.30		
Reserve for plant improvements	100,000.00	265,282.30	865,282.30
			$878,772.30

"X" Company, Inc.

Statement of cost of goods manufactured and sold for the year ended December 31, 1929

	Pounds	Price per pound	Amount	Total
Raw materials:				
Inventory, January 1, 1929	306,663	$ .22526	$ 69,080.00	
Purchases	557,706	.26667	148,722.00	
Total	864,369		$217,802.00	
Deduct—inventory, December 31, 1929	150,155	.26667	40,041.43	
Remainder	714,214		$177,760.57	
Deduct—waste sales	214,214		13,250.00	
Raw materials used	500,000	.32902		$164,510.57
Labor				216,511.00
Manufacturing expenses:				
Brokerage			$ 5,771.00	
Fuel			11,457.00	
Expenses			4,395.00	
Insurance			3,646.00	
Mill supplies			20,144.00	
Repairs			7,252.00	
Property maintenance			4,342.00	
Taxes			7,623.00	
Water rent			8,560.00	
Depreciation			26,541.00	
Total			$ 99,731.00	
Less—income from rentals			4,179.00	$ 95,552.00

"X" COMPANY, INC.

Working papers—December 31, 1929

	Trial balance December 31, 1929 Dr.	Trial balance Cr.	Adjustments Dr.	Adjustments Cr.	Cost of manufacturing and sales Dr.	Cost of manufacturing and sales Cr.	Profit and loss Dr.	Profit and loss Cr.	Balance-sheet Dr.	Balance-sheet Cr.
Property—real estate and plant (cost)	$ 676,170								$ 676,170.00	
Investments	378,114								378,114.00	
Cash	86,425								86,425.00	
Accounts receivable	17,444								17,444.00	
Inventories, January 1, 1929:										
Raw materials—cotton	69,080				$69,080					
In process	62,437				62,437					
Finished goods	86,940				86,940					
Fuel	2,097			(1) $ 2,097						
Mill supplies	4,910			(1) 4,910						
Property maintenance	815			(1) 815						
Purchases—raw material	77,594		(2) $ 71,128		148,722					
Purchases—fuel	4,600		(1) 2,097							
			(2) 4,760		11,457					
Expenses	2,116		(2) 2,279		4,395					
Insurance	1,546		(2) 2,100		3,646					
Mill supplies	7,389		(1) 4,910							
			(2) 7,845		20,144					
Repairs	3,488		(2) 3,764		7,252					
Property maintenance	2,242		(1) 815							
			(2) 1,285		4,342					
Taxes	4,023		(2) 3,600		7,623					
Water rent	4,310		(2) 4,250		8,560					

Labor	116,043		(2) 100,468		216,511					
Brokerage	2,770		(2) 3,001		5,771					
Executive salaries	6,400		(2) 4,400				$ 10,800.00			
Prepaid insurance	2,154								2,154.00	
Bad debts	450						450.00			
Yarn account		$ 6,250	(2) 6,250							
Accounts payable		4,362								$ 4,362.00
Sales—finished merchandise		328,757		(2) 241,882				$570,639		
Sales—waste		13,250				$ 13,250.00				
Reserves:										
For depreciation		384,126		(3) 26,541						410,667.00
For plant improvement		100,000								100,000.00
Income from investments		8,844		(2) 6,494				15,338		
Income from rentals		2,233		(2) 1,946		4,179.00				
Wages and salaries accrued		9,128								9,128.00
Capital stock:										
Preferred		400,000								400,000.00
Common		200,000								200,000.00
Surplus and profit and loss		162,607	(2) 35,192							127,415.00
Depreciation			(3) 26,541		26,541					
Inventories, December 31, 1929:										
Goods in process						66,939.45			66,939.45	
Finished goods						22,151.42			22,151.42	
Raw material						40,041.43			40,041.43	
Cost of manufacturing and sales						536,859.70	536,859.70			
Profit and loss							37,867.30			37,867.30
	$1,619,557	$1,619,557	$284,685	$284,685	$683,421	$683,421.00	$585,977.00	$585,977	$1,289,439.30	$1,289,439.30

Goods-in-process inventory, January 1, 1929	$101,752		$62,437.00
Total manufacturing cost	$601,752		$539,010.57
Goods-in-process inventory, December 31, 1929	104,287		66,939.45
Cost of goods manufactured	$497,465	$ .94895	$472,071.12
Finished-goods inventory, January 1, 1929	86,229	1.00825	86,940.00
	$583,694		$559,011.12
Finished-goods inventory, December 31, 1929	23,343	.94895	22,151.42
Cost of goods manufactured and sold	$560,351	.95808	$536,859.70

"X" Company, Inc.

Statement of profit and loss for the year ended December 31, 1929

Sales—finished merchandise		$570,639.00
Cost of goods sold (exhibit B)		536,859.70
Gross profit on sales		$ 33,779.30
Expenses:		
Executive salaries	$10,800.00	
Bad debts	450.00	11,250.00
Profit from operations		$ 22,529.30
Income from investments		15,338.00
Net profit for the year (before provision for federal income taxes)		$ 37,867.30

No. 2 (12 points):

Electrical sound-producing equipment is leased to a theatre company under a ten-year agreement which provides for (a) the return of the equipment, at the expiration thereof, in good condition, allowing for reasonable wear and tear and for obsolescence; (b) an initial payment of $6,000 plus weekly payments of $300 for the first two years (104 weeks) and $75 per week during the remaining eight years.

The initial payment represents part of the licence fee and entire cost of instalation of equipment.

Fifty per cent. of the amounts payable weekly during the two-year period represents licence fee and the other fifty per cent. insurance and interest under deferred-payment plan.

Subsequent payments represent service and inspection charges.

You may consider five years (260 weeks) as a conservative basis of amortization, regardless of the longer life of the lease, in view of the frequent improvements in motion-picture equipment.

Give specimen initial and weekly entries you would recommend to be set up on the theatre company's books.

Solution:

From the information given in the problem, the following summary may be prepared:

Payments	Instalation and licence fees	Insurance and interest	Service and inspection	Total
Initial.................	$ 6,000.00			$ 6,000.00
Weekly				
104 weeks at $300 per week..............	15,600.00	$15,600.00		31,200.00
416 weeks at $75 per week..............			$31,200.00	31,200.00
Total..............	$21,600.00	$15,600.00	$31,200.00	$68,400.00

As the problem states that a conservative basis of amortization is five years (260 weeks), the total cost of the lease ($68,400) should be written off over that period even though the payments are to continue over a period of ten years. In other words, the first five years will bear the entire expense of $68,400, and the last five years will be charged with no expense, although payments of $75 a week will be made during the second five-year period.

(1) Lease prepayments—sound-producing equipment.	$6,000.00	
Cash....................................		$6,000.00
To record the initial payment in accordance with the lease agreement.		
(2) Lease prepayments—sound-producing equipment	150.00	
Lease expense—sound-producing equipment.....	150.00	
Cash....................................		300.00
Entry during each of first 104 weeks. One-half of the payment is charged to prepayments account as licence fee; the remainder is charged to expense.		

But the total expense of $68,400 is to be absorbed during the first five years, or 260 weeks; therefore the total charge to expense per week for the first five years must be 1/260 of $68,400, or $263.08. As $150 has already been charged to expense (per entry 2) some entry must be made charging $113.08 to expense. This entry (and the subsequent similar ones) should provide two reserves:

(a) A reserve for amortization of the lease prepayments consisting of:		
Initial payment.....................	$ 6,000.00	
Subsequent payments—$150 for 104 weeks..........................	15,600.00	$21,600.00
(b) A reserve for payments to be made during the last five years—$75 x 260..............		19,500.00
Total............................		$41,100.00

Therefore 216/411 of $113.08 should be credited to a reserve for amortization of lease prepayments; and 195/411 of $113.08 should be credited to a reserve for dead rents.

(3) Lease expense—sound-producing equipment...	$113.08	
Reserve for amortization of lease prepayments		$ 59.44
Reserve for dead rents..................		53.64

Entry during each of first 104 weeks.

During the third, fourth, and fifth years, the weekly payment is $75, recorded as follows:

(4) Lease expense—sound-producing equipment...	$ 75.00	
Cash..................................		$ 75.00

For weekly payment.

But the total charge to expense is to be $263.08 per week or $188.08 more than the cash payment. This additional charge to expense will be offset by credits to the two reserves in the ratio of 216 to 195.

(5) Lease expense—sound-producing equipment...	$188.08	
Reserve for amortization of lease prepayments		$98.84
Reserve for dead rents..................		89.24

at the end of five years the accounts will stand as follows:

Lease prepayments—debits:	
Initial payment....................................	$ 6,000.00
Subsequent payments—$150 x 104....................	15,600.00
Total...	$ 21,600.00
Reserve for amortization—credits:	
$59.44 for 104 weeks................................	$ 6,181.76
$98.84 for 156 weeks................................	15,419.04
Total...	$ 21,600.80
Reserve for dead rents—credits:	
$53.64 for 104 weeks................................	$ 5,578.56
$89.24 for 156 weeks................................	13,921.44
Total...	$ 19,500.00

The lease-prepayments account can be written off against the reserve for amortization, and payments during the final five years can be recorded as follows:

(6) Reserve for dead rents....................	$ 75.00	
Cash..................................		$75.00

Payments for last 260 weeks.

These charges will exhaust the reserve of $19,500.

No. 3 (15 points):

Selected Securities, Inc., a corporation organized for the purpose of investing in securities, was managed, during the calendar year 1929, by the Specialized Management Corporation under an agreement which included the following provisions:

"Specialized Management Corporation agrees to manage the financial operations of Selected Securities, Inc., and to provide, in addition to financial counsel, all necessary office facilities and personnel. Expenses, such as interests, taxes, legal and accounting fees and custody of securities, will be paid by Selected Securities, Inc.

"Selected Securities, Inc., agrees to pay the Specialized Management Corporation for its services as financial advisor, etc., twelve per cent. of the net profits realized each year and accrued at the close of each year upon securities held. Such compensation shall not be included as an expense in determining the amount of net profit upon which the compensation is payable."

From the following trial balance of Selected Securities, Inc., at December 31, 1929, prepare the journal entries required to bring taxes and management compensation accrued upon the books. Prepare, also, a profit-and-loss statement for the year ended December 31, 1929, and a balance-sheet as at the close thereof.

Determine the liquidating value of the company's stock at December 31, 1929.

SELECTED SECURITIES, INC.

Trial balance, December 31, 1929

Cash at bank	$ 30,349.02	
Cash on loan at call	100,000.00	
Securities (at cost) *	1,628,741.20	
Dividends receivable	1,250.00	
Cost of securities sold	1,369,520.00	
Legal fees	5,000.00	
Auditing fees	2,600.00	
Interest paid	8,362.00	
Dividends paid	4,000.00	
Securities sold		$1,507,400.00
Dividends received		28,450.00
Interest received		9,685.32
Rights sold		4,286.90
Capital (40,000 shares, no par value)		1,600,000.00
	$3,149,822.22	$3,149,822.22

Solution:

The two unknown quantities, i. e., income taxes and management compensation, must be determined before the problem can be solved. It is assumed (1) that the dividends of $28,450 were received from domestic corporations and are, therefore, non-taxable; (2) that the interest received of $9,685.32 is not tax exempt; and (3) that the basis of valuing the securities inventories for tax purposes is cost or market, whichever is the lower. The taxable income before management compensation is as follows:

Income:		
Profit on securities sold—		
Selling price	$1,507,400.00	
Cost	1,369,520.00	
Profit	$137,880.00	
Rights sold	4,286.90	
Interest received	9,685.32	$151,852.22
Expenses:		
Legal fees	$5,000.00	
Auditing fees	2,600.00	
Interest paid	8,362.00	15,962.00
Taxable income before management compensation		$135,890.22

*The market value of the securities held at December 31, 1929, was $1,657,150. All rights sold were in respect to securities which had been sold at December 31, 1929.

The Specialized Management Corporation is to receive for its services "twelve per cent. of the net profits realized each year and accrued at the close of each year upon securities held." The net profits under the agreement, before federal income taxes is as follows:

Profit as above:		$135,890.22
Dividends received		28,450.00
Profits accrued upon securities held:		
Market value at December 31, 1929	$1,657,150.00	
Cost	1,628,741.20	28,408.80
Net profits (before income tax) subject to management compensation		$192,749.02

The next step in the solution is to determine the amount of the two unknown factors of income tax and management compensation.

Let T = the tax
and let M = the management compensation

Since the tax is 11% of $135,890.22 minus the management compensation,

$$T = .11\ (\$135{,}890.22 - M) \qquad (1)$$
$$\text{or } T = \$14{,}947.92 - .11M \qquad (2)$$

and since the management compensation is 12% of $192,749.02 minus the tax

$$M = .12\ (\$192{,}749.02 - T) \qquad (3)$$

Solving for M, and substituting the value for T in the equation (3), we have

$$M = .12\ (\$192{,}749.02 - (\$14{,}947.92 - .11M)) \qquad (4)$$

Removing the parentheses and changing signs:

$$M = .12\ (\$192{,}749.02 - \$14{,}947.92 + .11M)$$
$$M = \$21{,}336.13 + .0132M$$
$$M - .0132\ M = \$21{,}336.13$$
$$.9868\ M = \$21{,}336.13$$
$$M = \$21{,}621.54$$

Solving for T:

$$T = \$14{,}947.92 - .11M$$
$$T = \$14{,}947.92 - .11\ (\$21{,}621.54)$$
$$T = \$14{,}947.92 - \$2{,}378.37$$
$$T = \$12{,}569.55$$

The candidate should prepare a proof of the computations to ascertain whether or not they are correct. The amount of time required is well spent in most cases.

Proof

Computation of tax:

Taxable income before management compensation	$135,890.22
Deduct—management compensation	21,621.54

Taxable income	$114,268.68
Multiply by	11%
Tax	$12,569.55

Computation of management compensation:

Net profits before tax	$192,749.02
Tax	12,569.55
Net profits after tax	$180,179.47
Multiply by	12%
Management compensation	$21,621.54

Journal entries

Management compensation	$21,621.54	
Accrued management compensation		$21,621.54
To record the amount due to Specialized Management Corporation for its services as financial advisor.		
Surplus (income tax)	12,569.55	
Federal income tax payable		12,569.55
To provide for federal income tax payable for the year ended December 31, 1929.		

SELECTED SECURITIES, INC.

Statement of income and expenses for the year ended December 31, 1929

Income:			
Profit on securities sold:			
Selling price	$1,507,400.00		
Cost	1,369,520.00	$137,880.00	
Rights sold		4,286.90	
Dividends received		28,450.00	
Interest received		9,685.32	
			$180,302.22
Expenses:			
Legal fees		$ 5,000.00	
Auditing fees		2,600.00	
Interest paid		8,362.00	
Management compensation		21,621.54	37,583.54
Net profit before provision for federal income tax			$142,718.68

SELECTED SECURITIES, INC.

Balance-sheet—December 31, 1929

Assets

Cash at bank		$ 30,349.02	
Cash on loan at call		100,000.00	
Securities (at cost. Market value at December 31, 1929, was $1,657,150)		1,628,741.20	
Dividends receivable		1,250.00	$1,760,340.22

Liabilities and net worth

Liabilities:			
Accrued management compensation		$ 21,621.54	
Federal income taxes payable		12,569.55	$ 34,191.09
Net worth:			
Capital stock (40,000 shares, no par value)		$1,600,000.00	
Surplus:			
Profit for year	$142,718.68		
Less:			
Dividends paid	$ 4,000.00		
Provision for federal income taxes	12,569.55		
Total	$ 16,569.55	126,149.13	1,726,149.13
			$1,760,340.22

The liquidating value of the company's stock at December 31, 1929, is determined as follows:

Net worth, per balance-sheet		$1,726,149.13
Excess of market value over cost of securities on hand:		
Market value	$1,657,150.00	
Cost	1,628,741.20	28,408.80
Liquidating value of 40,000 shares outstanding		$1,754,557.93
Liquidating value per share		$43.864

Book Reviews

CHAPTERS IN THE HISTORY OF BOOKKEEPING, ACCOUNTANCY & COMMERCIAL ARITHMETIC, by DAVID MURRAY. *Jackson, Wylie & Co.*, Glasgow, 1930. Cloth, 519 pages.

This is a welcome addition to the literature of the subject, hitherto represented by the work edited by Richard Brown and by that of A. H. Woolf. It differs somewhat in scope from each of its predecessors, neither of which it entirely supplants. It contains a sketch of bookkeeping and accountancy in the seventeenth and eighteenth centuries, which treats of the teaching of the subject as well as its practice, a shorter chapter on accounting in mediæval and classical times, a more extended section relating to bookkeeping texts, and somewhat more than one-third of the book is given up to a discussion of commercial arithmetic. Throughout the work there is evidence of an appalling amount of research, the abundant footnotes often going far afield in uncovering points of biographical, bibliographical and historical detail not attempted in either of the previous histories.

Much quaint information, interesting to the accountant, is found in these chapters. Thus one learns that the original meaning of "accountant" was one who was accountable; so that a "public accountant" was one who was accountable to the government for public money with which he had been entrusted. One learns also that a municipal balance-sheet is not altogether a present-day innovation for one was prepared for Glasgow in 1693 by John Anderson, and that formerly, as well as today, the accountant was often a man of varied interests. Thus the title page of John Drummond's manual of bookkeeping bears the statement: "To which is added the method of catching and curing cod fish." And William Hamilton was not content merely with being a distinguished accountant and author, but also invented in 1740 "a machine, which being plac'd behind the door or window, instantly rings a bell, fires a pistol and lights a candle on the least attempt to force up either door or window." Possibly the dictum of the English judge that while an auditor need not be a blood hound he might be expected to be a watchdog traces back to this early writer, at once accountant and thief catcher. One learns, too, that in the beginning professional accounting was generally carried on by those whose main occupation was teaching bookkeeping, a reversal of present-day relations, where so many professional accountants are giving instruction as a side issue. It is gratifying to learn that the muddling of accounts ceased, in the sixteenth century, to make one liable to torture. And those engaged in teaching are interested in the argument set forth by Escobar in 1603 to the effect that gifts by pupils to their teachers ought to be allowed. "It is the duty of youth to support poor schoolmasters."

Murray gives more space to early treatises on bookkeeping than to any of the other subjects included in this book, more than twice as much as was given by Row-Fogo in Brown's History, and much more than is found in Woolf's work. Many of the early treatises are adequately and interestingly described. It is regrettable that there is, however, no systematic list of publications. Murray gives in his index of writers on bookkeeping 102 whose works appeared before 1800 while the bibliography prepared by Cosmo Gordon (contained in Woolf) lists 252 names. But, on the other hand, Murray has discovered twenty-one authors not found in the earlier bibliography.

One striking error is found in page 233 where the title page of *The Pathway to Knowledge* is reproduced. This contains the phrase "Written in Dutch and translated into English, by N. P." And the statement follows: "The translator was Nicholaus Peters of Deventer." In fact the title page gives the translator as W. P. (supposed to be one William Phillip) and Peters was not translator but author of the original Dutch work. There is also a statement that a Flemish edition of Menher was published in 1543. Apparently this is a confusion with the Flemish version of Ympyn published in that year, to which the author makes no direct reference. It is also to be regretted that the author of the first work on bookkeeping is given as "Lucas Pacioli de Burgo, Sancti Sepulchri, Doctor of Divinity and a Minorite Friar" continuing the old error which treats "Burgo" as part of the author's name instead of its being an appellation of the place where he was born; "of the village of San Sepulchro."

The book is both scholarly and entertaining, indispensable to those particularly concerned in the history of accounting, of value to all accountants who are interested in anything beyond the technique of their profession.

HENRY RAND HATFIELD.

FEDERAL INCOME TAXATION, 1930 SUPPLEMENT, by JOSEPH J. KLEIN. *John Wiley and Sons, Inc.*, New York. 311 pages.

He who undertakes to write a book or books upon the subject of federal taxation assumes a heavy responsibility to his readers. In the first place the original volume must be accurate and lucid (which, by the way, are attributes that few authors are able to attain) and the information it sets forth must conform to, and be in accordance with, the latest dicta upon the subject.

Within a short time after the book is published new interpretations are being made of the very provisions with which the author has dealt, new constructions placed on language that had appeared to convey definite thoughts, and actual changes are made in the laws. Therefore, having published the initial volume dealing with this subject, the necessity of keeping his readers apprised of the numerous changes constantly being made impels the author to continue at intervals to publish supplements bringing the information up to date.

Joseph J. Klein, author of *Federal Income Taxation*, recognizing this responsibility, has issued a three-hundred-page book, prepared with the same great degree of care that was evident in his original volume. The general titles under which the contents are indexed are:

Preliminary topics, including history of the income tax; bird's-eye view of 1928 act; nature and scope of income; constitutionality of the federal income-tax laws; interpretation of revenue laws; accounting for income-tax purposes

Gross income—exclusions and inclusions

Deductions

Special topics, including valuations, sales on the instalment plan, basis for determination of gain or loss, depreciation and depletion

Credits against income

Calculation of the tax
Classes of taxpayers
Procedure in determination of tax
Assessment, payment and collection
Penalties and penal provisions
General topics, including inspection and publicity of returns, tax avoidance and tax evasion

In addition the book contains appendices and indices, the former including such helpful matters as specimen returns, depreciation rates, board and treasury practice rules and bibliography.

The mere recitation of the foregoing table of contents will make an appeal to tax practitioners and create a desire to read what the book contains, but to one who opens its pages there will be a stronger appeal to delve into the information to be found there. This information is expressed in the readable manner which distinguished the author's *Federal Income Taxation* published in 1929.

To one who has closely followed the subject of federal income taxation since 1917, and seen its development during that period, a thought is strongly borne in as to the magnitude of the subject. And one can not avoid a feeling of amusement over the blithe and carefree manner in which we practitioners of those earlier days attacked the taxation problems confronting us. We were obliged to blaze our own trails, having only the act and the regulations as our guides. There was not that great body of judicial opinions now available, nor were there many authors' works to consult. If these later guides had been available it is conceivable that the later tax laws would have been more easily understood, that the courts would not have been obliged to interpret so many of the laws' provisions, and that we practitioners would not have devoted so much time to the subject.

STEPHEN G. RUSK.

APPLIED BUSINESS FINANCE, by EDMOND E. LINCOLN. *McGraw-Hill Book Company* (*Fourth Revised Edition*). 826 pages.

It is easy to be wise after the event. Wisdom before the event, though precious, is seldom recognized and usually undervalued. If this were not true the fourth edition of Mr. Lincoln's book would have sold by tens of thousands soon after its issue for in his preface, dated 20th March, 1929, while many of us were indulging in the exciting but expensive pursuit of the rainbow or were taking over someone else's already overblown balloon to inflate it still further, he clearly and definitely pointed out the weaknesses of the situation, its resemblance to all inflation periods, the certainty that the old economic and financial laws still worked and said in so many words, "Both the stock market and money market signals have for some time been set at danger." It is not necessary to say more than to mention again the date of this preface, 20th March, 1929.

After such an evidence of sound judgment one is naturally predisposed in favor of the author and this good opinion is justified by the remainder of his work. The average financial operations of the average business are the subject of the major portion of the book. The author does not, like other writers on the same subject, regard himself as primarily a digester of clinical reports on diseased and abnormal subjects, although these have proper consideration, but is far more interested in the normal functioning of a healthy organism.

The author does not, however, exhibit his usual judgment and range of information concerning accountants. He seems to have had some unfortunate experiences which have led him to believe that there is no generally accepted standard of procedure among reputable accounts. On page 290 he says, "Some audits are real, so that the statements presented indicate closely the actual condition. Other audits are merely pro forma, and are carried out perfunctorily, or the accountant may merely find what the concern wishes him to find and may permit his name to be used more or less as a rubber stamp. This indicates the necessity and value of work such as the publication by the American Institute of Accountants of the Federal Reserve pamphlet on *Verification of Financial Statements* and the work of several of the state societies in defining auditor's responsibility in several directions and other efforts to establish and publish statements of what constitutes good and accepted practice. At present the standing and integrity of the reputable practitioner are not enough to counteract impressions such as are indicated in the extract given above.

A particularly interesting chapter is that on customer ownership, where the advantages and disadvantages are calmly balanced. It might be read with profit by many public-utility officers who see only the advantages of this form of financing.

While in general the author favors a sane conservatism in valuations, he is at times inclined to go too far in praise of writing down assets and creating hidden reserves. He appears to forget that when a property is sold or its worth calculated to establish a fair return, such ultra-conservatism places the burden of proof on the owners of the undertaking against whom there is a strong presumption that the book, rather than appreciated values established for a purpose, is correct.

In discussing, in chapter XV, among the services a bank may offer its borrowers these are enumerated:

1. We coöperate with the credit department of the bank and make a constructive examination of the borrower's business.
2. Advisory service is rendered to corporations with reference to their finances and operations.
3. Special investigations are made for corporations looking toward the establishment of modern systems of operation.
4. Advice is given on matters of accounting in addition to other services along similar lines.
5. Service is rendered to groups of manufacturers desiring to merge or consolidate. This involves a partial determination of the possibilities of such consolidations and their relation to industry as a whole; also the determination of the relative worth of the individual concerns in the consolidation.
6. The department also acts with creditors' and security holders' committees and makes special examinations in coöperation with such committees.
7. Examinations are also made for investment houses with a view to determining whether new financing is needed and if so the type of finance which will probably be best for the concern.
8. In frequent instances examination of a business is made at the request of the concern itself with a view to pointing out weak spots and suggesting methods of improvement.

It would seem that many if not most of these services would be better rendered by the borrower's own attorney or accountant, on the principle that no matter how fair and impartial the bank tries to be its interests are not absolutely identical with those of the borrower's, and the borrower should know specifically what information he is giving the bank rather than to give the bank carte blanche to investigate his affairs.

In general the book is well written and well arranged. It covers its field in an encyclopædic manner and is particularly strong in statistical matter. The revised edition should be of value to all who have to do with corporation finance both in its internal and semi-public or investment aspects.

MAURICE PELOUBET.

WALL STREET PROCEDURE, by DEWITT CARL EGGLESTON. *Greenberg, Publisher, Inc.* 301 pages.

The author of *Wall Street Procedure*, a lecturer at the College of the City of New York, has once more expanded the subject matter contained in lectures to his students and made of it an accounting textbook.

Starting with a fairly detailed and most interesting description and explanation of the function and necessity of security markets in general, the author proceeds to describe the highly specialized organization of a stockbroker's office, the various kinds of transactions, the relationship existing between the customer and his broker, and then gives a most clear and intelligent picture of the accounting forms, records and financial statements.

He describes the procedure followed in the preparation of the answers to the New York stock-exchange questionnaire, which the committee on business conduct of the New York stock exchange requires all its members to answer. In this description he has added something of great value to the rather limited literature on this subject. He takes one through the audit procedure step by step and gradually brings one through the necessary but sometimes discouraging mass of detail until one realizes the reason for and the importance of every step.

He increases the clearness of this work by a liberal use of charts and illustrations throughout the book and by adding a list of stocks traded in on the exchange, together with their ticker symbols.

Following along the same lines he has broadened his work to embrace not only stockbrokers but commodity brokers and markets, their clearing procedure, contract and deliveries, the settlement of contact differences and proceeds to their records and statements, with particular reference to members of the New York coffee and sugar exchange and the Chicago board of trade.

This book is a highly practical, timely and valuable text, to the student looking forward to public practice and to the professional accountant whose practice includes or who contemplates the audit of a broker's books.

ELMER O. STEVENS.

Accounting Questions

[The questions and answers which appear in this section of THE JOURNAL OF ACCOUNTANCY have been received from the bureau of information conducted by the American Institute of Accountants. The questions have been asked and answered by practising accountants and are published here for general information. The executive committee of the American Institute of Accountants, in authorizing the publication of this matter, distinctly disclaims any responsibility for the views expressed. The answers given by those who reply are purely personal opinions. They are not in any sense an expression of the Institute nor of any committee of the Institute, but they are of value because they indicate the opinions held by competent members of the profession. The fact that many differences of opinion are expressed indicates the personal nature of the answers. The questions and answers selected for publication are those believed to be of general interest.—EDITOR.]

MAINTENANCE DEPARTMENT COSTS

Question: It has been proposed that our maintenance department, the machine shop for example, should, as a practical matter, use an inventory scheme with respect to the distribution of labor. For instance, the machine shop total labor cost will be charged to a labor-process account and will represent the total hours for the department for the month. This labor-process account will be relieved by the average labor cost with respect to all the results of the department for the month. In other words, the labor will be charged to the process account at varying rates, but will come out of this account at a standard rate. Our rates for twenty-six men vary from 46 cents to 70 cents per hour, and the average is 63 cents per hour. A man under the proposed system to whom we pay 46 cents will work ten hours on a job at an actual cost of $4.60, but the standard rate will show a cost of $6.30.

This scheme does not seem to me to be theoretically correct, although I am not prepared to say just what the practical aspect of it may be.

I shall appreciate very much the opinion on this proposition of any members who may care to consider it.

Answer: For distribution of labor costs of a maintenance department, several methods are in use, the more common being either a standard rate for the department, or the individual rate of the employee engaged.

The argument in favor of individual rates is that the jobs are charged presumably according to the time and skill demanded. The arguments for the department standard rate are:

(1) Economy in bookkeeping.

(2) The assignment is not always determined according to the skill required: availability and other factors sometimes enter in.

(3) The standard rate may be in the nature of burden, including overhead expenses, as well as labor cost.

Answer: When installing cost systems, we have many times worked out a plan for maintenance department such as described in the question, as we feel that practical accuracy in distributing the charges and the saving in clerical work from using an average rate is more important than the loss of theoretical accuracy. We would, however, usually go further and work out an hourly rate including maintenance-department burden as well as labor so that the hourly charge would cover all the service of the maintenance department.

Assuming a reasonable interchange of maintenance department men in work for the various manufacturing departments, we believe that the final results, using an average rate, will be substantially correct and that in practice any theoretical inaccuracy will be more than offset by the saving of expense in keeping the records.

COST OF RESEARCH AS OPERATING EXPENSE

Question: A client for several years has pursued the policy of charging into operations all amounts spent for research, patents, etc., whether or not any benefit was derived from such expenditure. These expenditures have averaged approximately $200,000 a year for the past five years, during which the client has developed new processes and new products from which future profits will be derived. This research work is to be continued and in the course of time certain other products will be developed that will be of value. Should the cost of research be capitalized?

Answer: The practice of charging to expense all costs of current research work is not unusual; there is much to be said for it.

"If a special attempt is made to attain some definite, patentable improvement, it is permissible to carry forward the accumulating cost until results are known; if a valuable patent is secured the cost of research leading up to it may be treated as part of the patent value, and written off over either the legal life of the patent or over its estimated useful life, whichever be the shorter period.

When (as your question suggests) the company maintains, and expects always to maintain, a general research department its cost should be absorbed as general expense. If its cost were "capitalized" future years might show a great accumulation of paper assets without value, for as new processes and new products appear older ones become valueless. This is especially true of the chemical industry.

In recent years the most progressive and enlightened companies in manufacturing business have leaned strongly toward the elimination from their accounts of indeterminable, intangible values; goodwill, trademarks, patents, formulae, have been written down to a nominal sum, say one dollar.

Upon the whole I think the practice of the client in this case is admirable

RETAIL BOOKSTORES

Question: It would be a great help to us if you could get an accounting firm or firms to answer from their experience the following questions relative to accounting practice in regard to retail bookstores:

At what intervals are physical inventories of books on the shelves taken?

Are the books individually marked (coded) to show cost and selling price, or only selling price?

Are physical inventories taken at cost or selling price?

Is a running inventory kept upon the books or are purchases charged Profit and Loss and an inventory taken at the close of each period to determine the cost by setting up the new inventory?

If a running inventory is kept are sales deducted at true cost or is an estimated cost deducted, arrived at by reducing sales to a hypothetical cost by averages arrived at from a running memorandum record showing purchases at both sales price and cost, and also mark-downs (what I believe is known as the retail inventory system)?

Are shortages in inventory more or less expected and if so what percentage of cost of sales might this accepted shortage be?

What are the accepted causes of shortages?

Answer: The following is the practice of one large book store:

1. Inventories are taken on December 31.
2. Books show selling prices. Costs are obtained from sellers' catalogues.
3. Physical inventories are taken at cost.
4. Running inventory is kept of valuable books, such as books sold in sets.
5. From above sales are deducted at cost.
6. At end of year the books are costed and shortages are not known.

NOTE.—A general reserve for obsolescence of $5,000 is carried.

Answer: 1. Physical inventories are taken once a year at the end of the accounting period. If possible, a physical inventory taken twice a year is preferable. In a book store, however, the great number of separate articles makes inventorying a laborious procedure. The situation is quite different from that in many other retail sections in that each book is distinct and few copies of each are carried.

2. Books are usually marked to show selling price only, but on the more costly or "binding books" cost is shown in code.

3. Physical inventories are taken at selling price only.

4 and 5. A running inventory that is a unit control is not kept, but a retail inventory equivalent to a perpetual inventory in total at retail is kept by the statistical office of the store. This retail inventory is known as the retail inventory system and arrives at the retail inventory on hand by the following formula:

	Cost	Retail
Inventory beginning	x	x
Purchases for the period	x	x
Freight and cartage in	x	–
Additional mark-ups	–	x
Total	3	1
Less:		
Sales		x
Mark-downs		x
		2

1 minus 2=retail inventory on hand.

To this figure the difference between 100% and the gross mark-on, namely, that which 3 bears to 1, is applied to arrive at the inventory at cost.

6 and 7. Some shortages are more or less expected, but the causes are few in a book store, being confined mainly to loss from pilfering. Another cause may be the failure to make out a stub-slip for damages to a book caused either by the receiving department or by fingering by customer.

REPORTS AND WORKING PAPERS

Question: We are extremely anxious to ascertain the general procedure with respect to the following:

(a) Limitation on the right of a client to refer to the accountant's report by culling therefrom portions thereof, without submitting the entire excerpt and the explanatory language which is to accompany it to the accountant for approval.

(b) Disposition accorded the reports and working papers of old assignments. We would like to know whether the general procedure is to keep the papers on file permanently or whether any of the documents are destroyed after a certain period has elapsed.

Answer: (a) We hold that the accountant's report must be submitted in its entirety, or the portion quoted from must have the approval of the accounting firm for use separate from the main report. We feel that this is absolutely necessary, in that qualifications, if voluminous, are frequently placed in the comments rather than on the statement affected, and that, if submitted in separate statements, qualification would be necessary on the statement itself.

(b) The detailed working papers on those engagements which are continuing we keep indefinitely. On companies which are out of business or with which we have no connection, we keep the typed reports indefinitely, and the detailed working papers for six years.

On the stock-exchange questionnaires, we follow the stock exchange rule of keeping the current audit and the next previous audit.

Answer: (a) In our opinion a client has no right to refer to an accountant's report by culling therefrom portions of it without submitting the entire excerpt in so far as it refers to the matter quoted, and even in doing so the client may be reasonably expected to ask the accountant's approval before publishing or using in any way such an excerpt.

(b) It is the practice of many public accountants, in which we concur, to destroy working papers after ten years and reports after fifteen years except in unusual cases where there is a probability of such papers' being required, particularly in federal tax matters.

VALUE OF AN ACCOUNTING PRACTICE

Question: I have been established in public accounting here for about ten years during which I have established accounting relations with a certain industrial group. I am seriously considering going with this group and disposing of my public practice.

Should I do this, I would have for disposal, aside from the work which I would retain by going with this industrial group, an established and recognized office for the practice of public accounting and would turn over to the purchaser thereof a practice amounting to $11,100, expenses of $5,950, leaving a net income of $5,150. This amount could be increased without difficulty as there is no competition and the field is not exhausted.

Can you give me an idea as to the price that should be asked for this business and the basis commonly used in this profession? The office equipment amounts to about $1,000.

Answer: Replying to your inquiry concerning the sale of an accounting practice, the pertinent points seem to be (1) exactly what is for sale and (2) its value to the purchaser.

Answering these, there seems to be for sale an opportunity—perhaps of much more value to one prospective purchaser than to another. Work may be lost, held or increased by a new proprietor—depending upon his ability and personality. A purchaser with ability and success-promising personality could afford to pay more than one lacking in both qualities.

Since, then, the worth of the practice to the seller may differ from that to the purchaser the practical thing would seem to be to find an accountant desirous of buying and agree upon the value to him.

In England, we believe, there is a rather generally used basis for valuing the goodwill of our profession but we know of none here. The English situation is different because of the law.

When a manufacturing business is sold and there is no change of goods or individual contact, real goodwill passes to the new owners. In the instant case clients would receive a different service and deal with a different individual. Professional goodwill clings to its creator, can be dissociated from him only to a limited extent and at best is a fragile thing in other hands. There is a vast difference between furnishing an opportunity and delivering goodwill.

As a practical suggestion, since income is the purchaser's measure of value, should not that also measure the sale price, basing the price on one or more years' actual income to the new proprietor, he making a moderate down payment and securing the later-to-be-determined balance?

Answer: Probably a fairly standard customary practice for computing the value of an accounting practice is to use three years' earnings as a goodwill value. Of course, in every transaction of this kind, much depends on existing conditions, and whether or not those selling the practice will undertake to continue with the business in a like capacity after it has been purchased. Probably the most satisfactory basis to both the purchaser and the seller is to arrange for a percentage participation in the profits of the succeeding years rather than to base the payment on past profits.

An arrangement which has been found satisfactory is to give the seller payment for tangibles and agree to give him, say, 100 per cent. of the earnings for each of the two years following the date of the sale and 50 per cent. of the earnings of the third and fourth years.

Answer: I would not personally care to make a definite statement with regard to my idea of the value of such a practice as your correspondent outlines. Indeed, I doubt whether I would myself consider the purchase at all unless the purchase could be fortified by some assurance that the vendor could guarantee in some way that the practice would follow the sale into the hands of the purchaser. A great deal would depend upon the size of the community and the relations which the vendor had been able to establish with his clientele. The question also of the character of the practice would be important, i. e., an analysis of the fees to indicate how much was recurring and how much non-recurring.

The better plan for a purchaser would, I think, be to establish some relationship under which he would give a commission to the vendor based on the actual fees received out of a certain designated list of clients, such commission being restricted to, say, from 15% to 20% of gross fees, at the outside, and for a limited period only, say three years. An arrangement of this kind would neither be unreasonable on the part of the vendor nor unfair to the purchaser, but any other arrangement might prove unsatisfactory.

Answer: It seems to me that this is peculiarly a question which can only be settled satisfactorily by applying the law of supply and demand.

The practice on question is worth what someone is willing to pay for it. The writer indicates that he has a practice to sell which would realize after all expenses, a net annual income of $5,150, and further, that this income could be increased without difficulty because of the lack of competition and the possibilities of the field. The seller could not, of course, hope to obtain anything for the undeveloped practice, and it is not clear whether or not any deduction has been made for the service of the principal in arriving at the hypothetical net income of $5,510. If there is no such deduction then the latter amount would have to be considered in relation to the market value of the services of the man buying the practice. If his services were worth $5,000 a year, and he had to give his entire time to earning the net income indicated, it is apparent that he would not expect to pay very much for the goodwill of the old practice. At any rate in such a case there would be no basis in the figures submitted for determining a fair price.

On the other hand if it be assumed that the expense mentioned included compensation for the principal, I believe that the seller might justly ask for a sum representing twice the net income plus the value of the office equipment. The whole question, however, is so subject to local conditions and to local ideas as to value that it is impossible to give a firm opinion.

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