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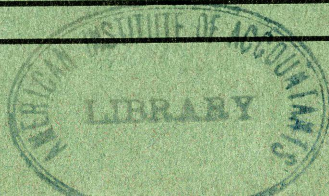
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By
JOSEPH FRENCH JOHNSON, Ph.D.



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AN ADDRESS BY

JOSEPH FRENCH JOHNSON, Ph.D.

PROFESSOR OF POLITICAL ECONOMY AT
NEW YORK UNIVERSITY

DELIVERED BEFORE THE

NEW YORK STATE SOCIETY OF CERTIFIED
PUBLIC ACCOUNTANTS

AT THE

WALDORF-ASTORIA HOTEL, NEW YORK
December 12, 1901.

COMMERCE, ACCOUNTS & FINANCE, N. Y.

THE RELATION OF ECONOMICS TO HIGHER ACCOUNTING

By JOSEPH FRENCH JOHNSON, PH.D.

An Address Delivered Before the New York State Society of Certified
Public Accountants, December 12, 1901.

Mr. Chairman and Gentlemen of the Society: I regret to say that I must begin with the usual stereotyped formula of an apology, for I have not had time to prepare carefully an address for you, as I had hoped to do. I must talk to you informally about my subject, economics and its relation to higher accounting.

I have always had, as most men seem to have, a rather hazy idea of what is called the science of accounting, and of the exact difference between the work of the accountant and the work of the bookkeeper. There is a difference, however, and in my remarks I shall endeavor to make clear the distinction as well as the relation of each to political economy.

Economics is a science concerned with a certain set of phenomena. Just as the science of chemistry endeavors to classify the phenomena in the elements of matter, and lay down the laws which regulate them, so the science of economics studies the phenomena of the production and consumption of all things that are exchangeable; that is, of things that have value, things which we ordinarily call wealth. Economics is not concerned with what ought to be or with what ought not to be, but with what is. The political economist, as such, is concerned solely with what takes place and with understanding and explaining the facts of the business world. When he undertakes to suggest improvements in the methods of production or distribution, he is outside the sphere of science and is over in the field of

art; he is applying the principles which he has learned from the science of political economy. So the economist who advocates a high protective tariff, or free trade, or the free coinage of silver, or a bank note system based on assets, the banks being allowed to issue as many notes as they can keep in circulation, is in such advocacy not a pure scientist; he is in the realm of useful or applied arts. Most of the great debates and disputes which have arisen in the field of political economy have been with respect to these practical applications of principles, and have not concerned the truth of the principles themselves.

MISTAKES OF THE EARLY ENGLISH ECONOMISTS.

The early English economists in developing their science made the mistake of assuming that the facts of the business world were so complex and intricate that they could not be classified. To them it did not seem necessary to go into the markets, into the fields, into the mines, and into the forest, and there watch the processes of production and exchange, in order that, through a study of the facts, they might arrive at the laws governing wages, prices, rent, the rate of interest, and the rate of profits. They founded their science largely on assumptions. They assumed that man was an economic animal; that is, that all men were governed by the desire to get rich; and that every man would necessarily sell in the dearest and buy in the cheapest market. They thus developed what is known as a deductive science of political economy. You are doubtless all familiar with the names of the celebrated English economists, Adam Smith, David Ricardo and John Stuart Mill. Those were the most celebrated, and all of them lived a little too much in their studies, and so developed a science of political economy which applied to no country and to no people that had ever been in existence.

I call your attention to this characteristic of the so-called "Classical School" of English political economy, because it seems to me possibly to contain an important lesson for the modern accountant. I will refer to this later.

DUTIES OF THE ECONOMIST.

What should the economist do? He should get as close to the facts which he wishes to explain as possible. Can an accountant theorize to advantage with regard to a statement, of defalcation, or about the profits of a concern, unless he ex-

amines, not merely the books, but the whole property, and looks accurately and critically into all the details of the business? Of course he cannot. If he should try it, he would grope in the dark. Yet that is something like the work which has been too often attempted in the past by the economists. Now, however, they are endeavoring to get away from the old method and to adopt what is known as the inductive method, and in the pursuit of their investigations they are coming into very close relation, it seems to me, with the work which you gentlemen are doing. It is now recognized that the economist who wishes to explain the phenomena of the business world, must be very familiar with those phenomena and with their significance.

The earth is the original source of all wealth. The physiocrats of France, who made the products of the earth the most important wealth, were not far from the truth. The raw materials of all our wealth come from the earth. Here, therefore, is where the economist must begin his investigations. He must trace the extraction of the raw materials from the earth, know just how those raw materials are produced, know the cotton industry, the coal industry, and the iron and steel industry; know where iron and steel are found and under what conditions, in what climate and in what soil cotton grows, what wages are paid, why the wages are low or high, and so on. The economist must get facts like these. He must go into the business world and watch, not hypothetical dummies, but the actual producers and exchangers of wealth. And that, I am glad to say, is what economists are now trying to do.

You probably are familiar with the large number of books, monographs and articles which have been published in the last fifteen or twenty years, giving information of the kind that I have just described. Our universities, instead of asking young men to write disquisitions on the theory of value or the iron law of wages, are sending them out into the world and making them learn exactly how things are made and under what conditions, what wages the employees receive, how the goods are sold, how the raw materials are obtained, how they are transported, and the cost of transportation from the mine or farm to the factory, the relations between the manufacturer and the wholesaler, the relations between the wholesaler and the retailer, and the means of payment. That is the kind of

work which the political economist of the present day is trying to do.

POLITICAL ECONOMY NOT AN EXACT SCIENCE.

I would have you notice that political economy is not an exact science. It is essentially inexact, for it is founded upon something that is always fluctuating, always shifting. It does not rest on bed rock like mathematics, or physics, or chemistry, which rest on nature's laws, but has its basis on your nature and my nature, your wants and my wants, and these are constantly undergoing change. Hence the economist who makes a positive prediction based on the events of today, which are all due to your wants and tastes of today, is liable to go astray. He can only say that the tendency is that such and such things will happen, other things remaining unchanged. The economist must always hedge when he predicts. Nevertheless, while economics must always be an inexact science, the pursuit of it is neither profitless nor inconclusive. Its greatest need today is facts. The economist wants accurate information in all the fields of production, industry and commerce. The statistical bureaus of the United States and of various states are putting forth a good deal of useful material, yet the facts within the reach of the economist are still very inadequate. They furnish only the most slender foundation for inductions.

ACCOUNTANT AND ECONOMIST.

Where does the accountant appear in all of this work which I have described as being within the field of the economist? Before we look for him, I want to run over rapidly the outline of a proposed course of study for the New York University School of Commerce, Accounts and Finance, in which it is proposed to bind economics and accounting closely together.

Outline of Announcement in Economic and Commercial Geography, Industry and Business Practice

I. COMMERCIAL GEOGRAPHY.

- A. The situation of the United States in relation to the other continents—soil, climate, topography, mineral resources, with reference to the composition of our foreign trade.
- B. The situation, topography, soil, climate, agricultural and forest resources, and mineral resources, considered in relation to the location of the industries of the United States.

II. INDUSTRY.

- A. Study of the methods and processes in use in the following industries:—
- a. The cereals and flour manufacture.
 - b. Iron and coal mining and the iron and steel industry.
 - c. Live stock and the packing industry.
 - d. Cotton, wool, silk and flax growing, and the textile industry.
 - e. The lumber industry.
 - f. The industry of transportation.

Principles of railway location and construction. Relations of railways to canals and other water ways. Principles determining the choice of railway routes. The technical side of rail-roading.

III. BUSINESS PRACTICE. A study of the business methods of production and distribution.

- A. Methods of getting control of natural resources. United States land laws and mining laws. Methods of optioning property. Terms of sale, mining royalties, etc.
- B. Methods of transportation. Principles of railway rates. Terms of payment. Description of operations, etc.
- C. Principles determining the location of manufacturing industries. Methods of erecting plant, collecting labor force, purchasing machinery; organization of purchasing and inspection departments; operation of plant. Methods of promotion and selection of foremen and overseers. Methods of wage payment. Relations between employer and employee. Business aspects of trades unions. Management of labor difficulties. Rights of employer and employee. Restriction upon employers in the matter of protection of laborers from accident. Methods of cost keeping and of keeping a depreciation account. Methods of sale.
- D. Organization of wholesale markets. Produce exchanges and produce speculation. Methods of dealing in wheat, cotton, petroleum, coffee and pig iron. Contrast of foreign and domestic methods.
- E. Distribution of the products. Relations between manufacturers and wholesalers; dating ahead; manufacturers' agent.

That outline will give you an idea of the kind of preliminary work that must be done by the economist. It is the purpose of such a course of study to make the student familiar with the development of wealth from its rough birthplace in mother earth on through the myriad transformations wrought by the toil of hands and machinery, together with the part played by the railroad, the ship, the tradesman, the produce exchange, and the stock exchange. To the economist the world is a vast and complicated machine for the production and distribution of wealth, and it is his business to study that machine until he understands the function of each part and can explain the laws governing every movement.

THE BOOKKEEPER AND THE ACCOUNTANT.

But where is the accountant in all this work? Well, I think I have discovered a person who looks like an ac-

countant. All through these processes of production and distribution and exchange, this person is everywhere hard at work. He is called a bookkeeper. In my opinion, he is not an accountant, but a servant of the accountant. The bookkeeper is a routine worker. He keeps the record of all the work that is done, and he keeps it in the way that he has been taught. His work is valuable, but he is not *per se* a thinker. I know just enough about bookkeeping to see how it is possible for books to be kept so as to give an intelligent record of the world's great industrial processes and its commercial transactions, without a single bookkeeper fully understanding the significance of the particular piece of work which he is doing. His work bears an important relation to economics, but he does not need to understand economics any more than the elevator boy out here needs to understand the laws of hydraulics or of steam engines. He has simple motions to go through, and the elevator rises or descends. But without the bookkeeper all this mighty sweep of industrial forces would be without significance, as meaningless as the blowing of the north wind. The bookkeeper furnishes the economist with the data from which he steps to the thing in which he is particularly interested, namely, profits. Profit is the incentive to all of our work. What profits are to the capitalist wages are to the laboring man, and the rewards of each are calculated from the data furnished by the bookkeeper.

But isn't the accountant also present in that work? Yes, he certainly is. I think he was there before the bookkeeper was there. I think the accountant had something to do with industry, with commerce and with political economy, for that matter, long before the bookkeeper—the record keeper—existed. He antedates the bookkeeper, just as Edison antedates the electric light, just as Franklin antedates the lightning rod. The accountant is not a refined bookkeeper, not an especially intelligent bookkeeper; he is not a bookkeeper raised to the nth power. He is not a bookkeeper multiple. He is a bookkeeper plus something—plus the wisdom of economics, plus a knowledge of law, plus an understanding of business, plus initiative, plus an uncommon measure of common sense. The perfect accountant understands every movement and the significance of every process in the world of industry, and is able to make an intelligent synthesis of all the records of each bookkeeper. In fact, he provides the

system according to which the bookkeeper must work. Thus I conceive accounting to be much older than bookkeeping; not a development from bookkeeping, but rather the father or inventor of bookkeeping. The first bookkeeper must have been an accountant.

CREDIT.

What is now the significance of the accountant's work? Having invented bookkeeping and set him at his important task, is the accountant's work done? Before I can answer that question to my satisfaction, I must examine a certain great organization or machine which has contributed a vast amount to the production and distribution of wealth. This machine is the most important one which business men use. If any cog slips in it we have a catastrophe that brings suffering and loss to all the people. It is a machine which must always be looked after, night and day; it must always be in order; it must always be well oiled. It is the machine known as credit. Credit instruments have been used a good many thousand years, for the explorer's shovel in Babylon has upturned records of promissory notes and of sales on account; but the credit system as we know it today is barely a century old. At the present time the greatest part of the world's wealth is created and exchanged every year by the aid of credit machinery. Destroy that machinery and production and trade will come to a standstill.

Credit, if we define it concretely, is merely a promise to pay money. It is founded on confidence in the prosperity of the community in which it is given, and on the taker's confidence in the giver's ability to pay and in his willingness to pay. It is sometimes called a substitute for money, but it is more than that; it does more than take the place of money. It adds more to the productivity of industry than any mere substitute for money could do. I should say that it is rather a device or machine to increase the efficiency of money, and to make money capable of doing manifold more work than it could do alone; a device, we may say, like the lever, which increases the efficiency of gravity. You know that if we have a light weight on the long arm of a lever and a heavy weight at the end of the short arm, they will balance. Just so one dollar in the cash reserve of a bank can be made to do the work of ten dollars on the outside. The dollar, of course, must be in the bank. It is impossible to develop a credit system without any money at all

behind it, but having the money, then by the aid of banks and clearing houses, which are part of our credit machinery, men are able to do a great deal more business than they could do if credit were not used.

Credit does the work of business with much more convenience and much more rapidity than it could be done with money. Credit, as compared with money, is like lightning compared with the old stage coach. A man can complete a transaction for a million dollars by a stroke of the pen, and since one credit instrument is generally cancelled and offset by another, many payments can be made without the exchange of any money whatever. Inasmuch as credit is the most convenient and the swiftest medium of exchange which the world knows, it is the one which all men prefer to use, and so it has come about that in the civilized world of today exchanges are reeled off, as it were, upon credit machines in astounding and ever-increasing totals.

One of the first steps in the progress of the human race was doubtless coincident with the invention or evolution of money. It is an interesting study to trace the development of the use of money as peoples and nations have increased in intelligence and in industrial efficiency. But the greatest advance in material civilization has been made since credit appeared. The remarkable increase in the world's wealth that has been made in the last hundred years has been *pari passu* with a marvelous development of the world's credit machinery, and at the present time all our prosperity is dependent upon the condition of that machinery. If it gets out of order we have panic, idle labor and general distress. It is, furthermore, the most sensitive piece of machinery in use. Through its agency economic forces, good and bad, are flashed around the world, so that short crops in the Argentine Republic, over-production in Brazil, over-speculation in Germany, or destruction of capital in South Africa by war, all tending to injure the delicate machinery of credit, are bound to react upon and injure the United States, even though we have committed no economic sins.

RELATION OF CREDIT TO ACCOUNTING.

What has all this got to do with accounting? It is my opinion that we have found a point of close contact between the accountant and the science of political economy. Of all the phenomena which economists are seeking to explain,

credit is one of the most important, and credit is merely a matter of accounting. With imperfect accounting you will have an imperfect credit machine. With imperfect accounting, the production of wealth will decrease, and bankruptcy and poverty will increase. The accountant, it seems to me, is the inventor, the creator of the credit machine. Not only did he invent it, but he is the man who has the care of it, who protects it from violence. He must see that every part is doing the work which it is intended to do. The bookkeeper, to be sure, is also there doing what he has been told to do. I have a great respect for the bookkeeper, and I am inclined to think that there are many bookkeepers who deserve, on account of their intelligence and their knowledge of the processes of which they are a part, to be classed as accountants, and not as mere routine workers. Nevertheless, bookkeeping seems to me to be only a trade, involving a lot of routine work and a minimum use of the brain; while accounting I would put among the professions, where the maximum is done by the brain and the minimum by the fingers, the body and the muscles.

It is the accountant, and not the bookkeeper, who is responsible for this modern credit system. The responsibility is great. If the accountant is to perform the full service which his profession has charged him with, he must understand the industrial and commercial processes which the machine that he has invented is helping to carry on. In short, I think I would make him both an economist and a lawyer. He must know a good deal about business, or he cannot help the man who comes to him for advice with a story about a defalcation or tangled books or losses where there should be profits; he should know the nature of the business, the chances for loss, how the goods are sold, and the laws which govern the sales. It seems to me that the accountant, if he is to carry his profession to its logical goal, must be a very highly educated man; he must know both the law and political economy; just as the lawyer and the political economist should know accounting. The economist goes out in search of the truth and sometimes he comes home with only a bookkeeper's statement. Now, you know there are three kinds of lies; white lies—lies, and balance sheets. The economist like many other people, is often baffled by balance sheets, for example, by such balance sheets as the railroads used to publish in their annual

reports. The accountant has a lot of work cut out for him. He must, for one thing, convince the managers of great railroads and industrial corporations that it is worth while to keep their accounts in such fashion that he who runs, having sense, may read and understand; and he must be ready to provide them promptly with the proper system of accounts. The accountant must recognize the full significance of the distinction between himself and the bookkeeper. His work, it seems to me, can be compared to the work of the United States mint, which takes a piece of raw gold and coins it into money available for use; or to the work of the bank, which takes your and my raw, unavailable credit, and coins it into a credit everywhere acceptable in the shape of a draft; for in like manner the accountant must take a lot of raw, heterogeneous facts and coin them into intelligible propositions.

FUNDAMENTAL PRINCIPLES OF ACCOUNTING.

I would like, for the sake of the discussion that I hope will follow, to suggest one or two principles which are fundamental in accounting, and which seem to bear a close relationship to certain economic propositions. One is that familiar law that debits must equal credits. That is analogous to an established proposition in economics, to wit, that the marginal utility of a good which is sold must equal the marginal utility of the money price which it fetches. Marginal utility is a term that economists have adopted to express a thought which perhaps can be more simply expressed. The marginal or final utility of a good is the utility of the last bit of the good that is in the supply sold, and it fixes the price. In the case of wheat, for instance, if it is offered at 90 cents a bushel, and only part of it can be sold at that figure, the holders must and will lower their price to a figure that will bring into the market buyers enough to take up the whole stock.

The accountant's treatment of money has suggested to me the thought that the first accountant must have been a political economist. Money, of course, is nothing but a go-between. Men are producing goods in order that they may exchange them for other goods. Money is simply a medium, and that is exactly the way the accountants treat it. You make money a person. You treat it as a sort of messenger, the Mercury of business, to whom goods are en-

trusted and from whom goods must be received in equal amounts, money itself being only the common carrier. The economist in his theory of money has reached the same conclusion, but he would appear to have reached it a little later than the accountant.

DETRIMENTAL INFLUENCE OF THE ENGLISH CLASSICAL SCHOOL.

I have no doubt that many other parallels can be found between accountancy and political economy, but I will not continue the subject, for I want to discuss something else. In the beginning of my talk I intimated that our political economy in its development had been hampered somewhat by the influence of the English Classical School. I am wondering if accountancy in America, since it must have been very largely modeled after English methods, has not suffered very much in the same way. I would not be understood as condemning either English economists or English accountants. The former were certainly the greatest that the world has yet produced. No country has given birth to any economist whose name deserves so high a place in our esteem as the names of Adam Smith, David Ricardo and John Stuart Mill. Yet these great thinkers were under the influence of their narrow environment; they were primarily interested in the economic phenomena of England alone. Their theories were all constructed to explain English conditions. During their lifetime England, from a modern point of view, was practically an isolated economic unit. The people were dependent for their support upon the products of one season, one soil and one climate. Goods were not pouring into England from all parts of the world, for that was before the day of the railroad, the telegraph, the cable and the steamship.

As a result of these conditions, the economists developed a peculiar theory with regard to capital, namely, that the amount of capital, or wealth, in a country determined absolutely the amount of possible industry. By capital they meant especially food stuffs and raw materials, of which England possessed only a definite amount at the beginning of each year. The English economists made the wages of labor dependent on the amount of foodstuff that had been stored up in the country, and so the rate of wages varied with the number of workingmen among whom it was to be

divided. Increase the number of workingmen, that is the denominator, and you would lower the rate of wages. Increase the amount of capital, that is the numerator, and you would increase the rate of wages. This so-called wage fund theory has been abandoned by modern economists, for it certainly does not apply to modern conditions. There is no fixed capital fund in any country, and no limited amount of food upon which the population must subsist. No country is now dependent upon the products of a single season, but has tributary to it all the soils and climates of the earth.

IMPROVED METHODS NEEDED.

It seems to me quite possible that English accountancy, like English economics, may have failed to keep up with the rapid development of recent years, and that, perhaps, American methods of accounting, if modeled too closely after the English, may not be doing for industry all that they should. The custom, for example, of closing books only once a year, it strikes me, is antiquated. The 31st of December is a day of no more consequence in business than any other day. The business of the United States is no longer limited by the products of the season or by the products of a single country. The flow of goods into our factories and markets is perpetual, for they come from all countries, and find a sale in all markets. I am unable to indicate the improvements in our accounting methods demanded by these new conditions, but it seems to me certain that the old methods must have been outgrown. The entrepreneur cannot now be contented, I am sure, with a yearly balance sheet or yearly statement of profits. I should say that he ought to know where he stands every day, for not otherwise can he steer his enterprise wisely, keep clear of breakers, take due advantage of the shifting winds in the markets, and be always in trim for a financial gale.

Wonderful improvements have been made in recent years in the organization of industry. You are all familiar with the results, the vast aggregations of capital in great corporations and so-called trusts, the gigantic combination of railroads. Accountancy must keep pace with these movements. I do not know that it has failed to do so, but I merely call attention to the necessity for progress. The systems of accounting in vogue in England fifty years ago cannot be applicable here. Even that in vogue in this country

twenty-five years ago will not suffice to meet the requirements of modern conditions. So I find here urgent need for the work of the scientific accountant. It will keep him side by side constantly with the economist, who is also trying to keep in touch with the marvelous development of industry.

I will close with a story which I heard in Austria last spring. I asked an officer of the government his opinion of the financial condition of Russia. He shrugged his shoulders. That was an answer I often got over there. I remarked that Russia seemed to be very prosperous, Minister De Witte having made out in his report that the financial condition of the empire was first class. "Yes," he said, "yes, yes, but—I will tell you a story. There was a man once who was very well off, and who had a son whom he wanted to give a good education, so that he might continue the father's business. He sent this son to a commercial school to learn bookkeeping. Finally the young fellow came home and the father said: 'Now, my boy, I have never kept any very strict accounts of my affairs. I wish you would go around and get all the information you can and tell me just exactly what my condition is.' So the young fellow started out and inquired into his father's business affairs on all sides, and after some weeks he came to his father with a good many pages of figures, and said: 'Well, father, I have got through.' 'What is the result?' The son said: 'Father, I find that you are bankrupt.' And it may be that if you send a fellow through all the figures about Russia, you will find that Russia is bankrupt."

The story points still another moral, for it appears that the father was disgusted with the reply and said: "Boy, you go back and learn some more; you go back and learn how to figure me out of bankruptcy." It is my opinion that the father was talking to a bookkeeper and wanted to make his son an accountant.