

✓ Princeton Theological Review

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By Whom, all things; for Whom, all things.

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*FIFTY-SIXTH YEAR.*

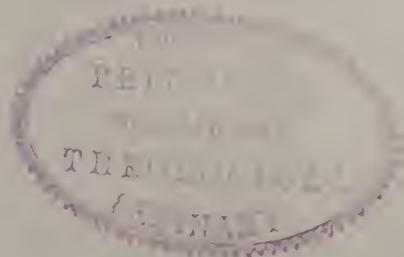
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## POLITICAL ECONOMY A SCIENCE—OF WHAT?

IS Political Economy a science? and if so, a science of what? are two questions strenuously disputed—the latter among economists themselves, whose attempted definitions of it are so various, inconsistent, or inadequate as to tempt not only the many unversed in it, but even so eminent a writer on the subject as Professor Bonamy Price to deny the former. In his recent very able work on “Practical Political Economy,” he earnestly and ingeniously contends that it is not a science. While this is a very common notion of those wholly or partially ignorant of the subject, owing to the debate and uncertainty which they suppose cloud nearly every economic question, the great body of standard authors upon it, since it has become a distinct and prominent department of human research, have treated it as a science; and this none the less, altho they have so largely failed to come to an agreement as to its exact sphere and scientific definition. In this we think they are right. It seems to us that the principal arguments to the contrary, if valid, are also valid against some of the principal mental and physical sciences, if not against the very being of Science and Philosophy as such.

1. The chief of these arguments, so far as they have come to our notice, is that political economy “is the application of common-sense to familiar processes.” But if this destroys its scientific character, then it sweeps away nearly all the mental and sociological, and no small part of those commonly called physical sciences. For what operations are more familiar than those of the human mind? They are the phenomena of consciousness, *i.e.*, of what men are conscious of, or having, know that they so have them. So the Scotch psychology and meta-

physics of Reid's school assumed the title of the Philosophy of Common-Sense, because they were distinguished for rejecting all philosophic fictions contradictory to the intuitive judgments of mankind, re-establishing the normal authority of these, and analyzing their proper content and logical implications. So all sound works on mental science deal with the facts of human consciousness, and attempt to evolve explicitly what these involve implicitly. Let whoever doubts this read that late work of Dr. McCosh on "The Emotions," so marvellously keen and penetrating in its analysis, yet so replete with live illustrations from facts familiar to all; and all the more attractive and readable because so enlivened by that genius whose prerogative it is, as Coleridge says, "to produce novel impressions from familiar objects."

Sydney Smith, in that style of paradox by which he was so fond of giving piquancy to his utterances, observes that "it fares worse with this science (metaphysics) because its aims and extravagances are comprehended by so many. If you tell a man that the ground on which he stamps is not ground, but an idea, he naturally enough thinks you mad. If the same persons were told that the planets were rolled about in whirlpools, or that the moon, as Descartes thought, was once a sun—such a person who would laugh at the former might hear these latter opinions advanced without being struck with their absurdity. Every man is not necessarily an astronomer, but every man has some acquaintance with the operations of his own mind, and you cannot deviate grossly from the truth in these subjects without incurring his ridicule and reprobation."

But even many of the physical sciences are largely conversant with familiar objects with which men have always had to do, such as air and water, heat and light, tides and currents, levers, wheels, pulleys, wedges, projectiles, plants and animals, and so on indefinitely; and not merely with such matters in the general, but in many of their modes of operation which science takes note of, sometimes as things to be proved, sometimes as contributing to the proof of higher laws under which they are generalized. Such was the falling of an apple to Newton's eye, who saw in it the universal law of gravitation which, thus sug-

gested, he proceeded, by the requisite observations and experimental tests, to prove. What more than this was that suspicion of an expansive force in the steam issuing from a tea-kettle, which, being proved, has made water vaporized by heat the great motor of modern times, and with electricity the propulsive material forces of modern civilization?

2. It is argued by Professor Price that "what are called economic laws are mere tendencies." So far as *pure* economics, saying nothing here of its applications, is concerned, this is freely granted by some of the best economic writers, who none the less vindicate the claim of political economy to the rank of a science. But the proof of tendencies towards certain conditions or results which, unless counteracted, will issue in them, is as much a scientific achievement as any scientific discovery or induction whatever. What are all the laws of nature, all mechanical and chemical laws or forces, nay, laws of organic life also, but tendencies to modes and results of action sure to take effect, unless counteracted by opposite or modifying forces, as they so often are? The simplest diagonal force in mechanics is a good illustration. What is a perfect chronometer, what are all machinery, engineering, and architecture, but devices for adjusting and balancing forces or tendencies wholly or partially concurrent, or antagonistic, so as to neutralize whatever tends to hinder the result arrived at?

As to the mental and moral sciences, so far as they respect events dependent on the human will influenced on the one hand by the manifold views and appetencies which sway its decisions, and hemmed in on the other by ever-varying external conditions, nothing can be known beyond tendencies. Laws in plenty may be ascertained and propounded with certainty as to what is normal, intellectual, and moral action; what men ought to be, what they ought to do in general. The same is true in economics. But as to the most efficient modes of carrying out these laws, these may vary according to the attendant opportunities or impediments. For example, so far as events are concerned which depend on the human will, for whose guidance in action ethics, politics, jurisprudence, theology, nearly all the sociological sciences furnish principles and rules, they give us no means of prevision of the future beyond tendencies to such

events, which will take effect in the absence of counteracting tendencies. We may calculate and predict general average results, but nothing more. But what can be more important than such knowledge of tendencies and counter-tendencies? As money is abundant or scarce, prices tend to rise or fall. If credit, operating as a purchasing power, be inflated, it acts still further in raising prices. But if, in consequence of being overstrained, it collapses, not only does this stoppage of purchasing power of itself shrink prices; it more than counteracts the tendency of abundant money to raise them, by throwing it temporarily out of use, and making it as tho it were not, because locked up in unavailable hoards. So, while financial or economical tendencies may certainly be ascertained to be the result of certain conditions uncounteracted, which of these conditions, whether antagonistic or concurrent, may arise, can rarely with certainty be forecast.

3. This disposes of another objection to economics ranking as a science; to wit, that it is powerless to predict the future course of production and commercial vicissitudes with any certainty. Of course it is. It is none the less true and important that "the hand of the diligent maketh rich," *i.e.*, has this tendency so surely that we can forecast the probable result, while a thousand unforeseen disasters, like war, pestilence, bad harvests, fire or flood, may more than destroy the normal fruits of a year's industry. Can we not with reasonable certainty predict divers disastrous consequences of flooding the country with irredeemable currency, however they may be mitigated by unforeseen counter-influences? Can we not foresee the effect of conducting legislation upon the assumption that money is the only wealth, the basis of the exploded commercial system, and of much that is now erratic in private schemes and public legislation?

Nor, again, is it any proof against economics being a science that its votaries dispute often about some of its principles or their application. No sciences are free from such contentions unless the apodictic and formal. While these contain a preponderating body of truths undisputed and indisputable, yet even they have their disputed sides. The physical sciences present one vast battle-field of contestants between evolutionism and

creationism, about ultimate molecular atoms or forces, or centres of force, which quite bewilder the uninitiated. On the psychological and metaphysical side, what end have we of disputes between sensationalists, associationists, utilitarians, intuitionists, and so on, to the end of the chapter? Nor does even the climacteric science of theology fare better; yet it would be the climax of childish weakness to maintain that this is any warrant for scepticism, or that no light has been gained upon these subjects by the scientific study of them, or that a great and precious body of truth has not been thereby opened up, clarified, and confirmed; and this altho little remains that some even respectable writer may not be found to dispute. No science is built up to perfection in any one age, or by any one man or set of men, or so that some of its principles may not be disputed in some quarters. It is in the light gained by the observations and discoveries of those investigating in support of false hypotheses, that progress is made towards truer systems. It has been well observed that the Copernican system could not have been reached without the aid of the discoveries made by the Ptolemaists. Reid advanced in the light of the truths and errors of his predecessors, while he retained or put forth many crudities requiring to be cleared up by his successors, before his system was at all perfected.

Much less is the claim of economics to the rank of a science disproved by the disagreement of its leading authors as to the proper definition of it. If disagreement here could disprove its scientific character, then scarcely a plurality of sciences, if any science at all, is left. If we take pure logic, which is, next to mathematics, the most apodictic of the sciences, and unfolds the laws of definition, it is variously defined by principal authors: by Whately as the "science of reasoning," and "wholly conversant about language," a doctrine denounced without stint by Hamilton, who, followed substantially by Mansel and Thompson, pronounces it the science of the "laws of thought as thought;" Dr. McCosh defines it "the science of the laws of 'discursive thought;'" while J. S. Mill, noting the great diversity in the modes of defining logic, in the Introduction to his great work on the subject, styles it "the science of proof or evidence." Mr. Mill profoundly observes, that while good definition is

logically the first step in any science, it is actually and necessarily the last, because it cannot exceed the measure of our knowledge, and cannot therefore become complete till that becomes complete. It is very apt to reflect the aspect or side of the subject uppermost in the mind of him who gives it. The definitions given of political economy by its great exponents are no more numerous or conflicting than those of logic, a science of apodictic certainty, and one to which everything truly scientific must conform; nay, they are less so than those given of science itself by the leading authorities. All definitions of any science in its immature state are necessarily provisional. This is evident enough to any one who will consult such articles as those on Science and Philosophy in Fleming's "Vocabulary of Philosophy," or almost any good encyclopedia.

While it is thus clear that diversities or imperfections in the definitions given by the authorities in any department of human thought or inquiry do not necessarily divest it of its title to the rank of science, it may be added that the variant definitions of political economy put forth by authorities of any weight are unusually few; that most of them, in spite of their defects, cover the more important phenomena with which it deals, or of which it gives, or seeks to give, a rationalized explanation—the what and the why, the *οτι* and *διοτι*, which constitute the subject-matter of this, as they do of every science. Notwithstanding this imperfection of definition, however, most tolerably informed people know very well what properly comes within the range of political economy, altho they cannot give the scientific definition of it, just as nearly all men know when the objects they see belong to the order of plants, animals, or men, altho they cannot give the logical definition of either class. They are possessed and regulated by the true idea of each, even if they cannot give its differential marks. It masters them if they have not mastered it.

What Professor Price represents political economy to be, by way of proving it not a science goes far to prove it such, however imperfectly developed. He says: "It is the application of common-sense to familiar processes. It explains their nature and manner of working. It analyzes and thinks out practices which are universal, except when thwarted by artificial theory.

The information which it acquires by observation and analysis it puts together in systematic form. Its teaching is contained in a body of methodical knowledge, which presents to the inquirer the chief facts and the real essence of these natural processes. He is made to understand them, each singly for itself, and all of them together as a connected whole." ("Prac. Pol. Economy," p. 15.)

If the essentials of what constitutes the science of grammar, psychology, logic, and ethics do not fall under these categories, the reason is not apparent to us. The establishment of the doctrine that some actions are intrinsically right, and obligatory because they are right, against Paley's doctrine that happiness is the sole motive, and expediency the supreme guide, of moral action; that "pleasures differ in nothing but continuance and intensity," and that "obligation is nothing more than an inducement of sufficient strength," is only the result of "analyzing and thinking out practices that are universal, except when thwarted by artificial theory," or a perverted bias. And what else is accomplished by logic?

Prof. Price says, with some justice, "The truths proclaimed by political economy are ultimate truisms—processes which have always been known to all the world; and when political economy has explained them, the hearer is apt to exclaim that every one knew that before. It is an excellent test of real economical teaching that it should leave the pupil in the perception that it is made up of familiar truisms." But is this so in any sense which does not pertain to the mental, to say nothing of the physical sciences? Strip the canons of the syllogism of technicalities, and let their real meaning in upon the average mind, what are they but truisms? Study Reid's *Intellectual Powers* or Locke on the *Understanding*, and while they have promulged some errors for subsequent thinkers to dissipate, yet what is the most valuable part of their contributions to mental science but rescuing truisms from the mists of theoretical subtleties, or vulgar misconception, in which they had been enveloped and lost sight of?

But if Prof. Price has not invalidated the title of political economy to a place among the sciences, however short of a perfected science it may be, he has, in our judgment, been quite

successful in showing the insufficiency of some chief historical and current definitions of it. These definitions, omitting those of occasional writers, who almost confound it with politics or general sociology, are chiefly three: that it is the science of wealth, the science of value, the science of exchange. As by value most writers mean exclusively value in exchange, so some of them, conspicuous among whom is Prof. Perry, make it at once the science of value and of exchange. "Political economy," says he in his "Elements," "is the science of exchanges, or, what is exactly equivalent, the science of value." Others, including such great authors as Adam Smith, J. S. Mill, and Mr. Senior, define it as the science of wealth, in some aspects of it, a word which Prof. Perry denounces as "the bane of political economy. It is the bog whence most of the mists have arisen which have beclouded the whole subject." The difficulty has been, that by wealth is understood amongst men, not mere services which leave no certain product that survives them, but commodities or material objects having utilities impressed upon them by human labor which survive that labor. The sum-total of these in a country constitutes its wealth. The sum-total of them of which an individual is the owner, or to which he has a legal title, constitutes his wealth. We agree, and shall show more fully, that wealth in this accepted sense of it is not coextensive with the sphere of political economy. But the same thing is easily shown by Prof. Price to be true of exchange and value in exchange. What is value? It is that in any material object impressed upon it by human labor, which men sufficiently desire to be willing to expend some labor to gain it. It depends upon two things: 1. That it cannot be had without labor; and 2. That it be so far an object of desire that one or more men are willing to bestow that labor to obtain it, either in the direct production of it, or the doing or making of what will purchase it in exchange. The mistake of making exchangeability the equivalent of value is that of putting one of the accidents of value for its essence. The essence of economic value is that utility in a material object which costs labor to produce it, and for which the party to whom it is valuable is willing to give that labor. It is true that, to a large extent, he obtains such things with least labor by purchasing them from some other maker of them, in di-

rect or indirect exchange for some service or product of his own. So to him, what he makes and gives in exchange for a commodity or service measures the value which he puts upon what he gets in return for it. Hence the science of political economy covers phenomena and human activities broader than those of mere exchangeable value. As Adam Smith said, and Prof. Price so ably proves, there is value in use as well as exchange. Yet we think Prof. Price goes to an extreme of subjectivity when he defines value as "a feeling," "a sense of attachment, of affection for a thing."

This is the etymological fallacy of assuming that nouns and verbs of the same root necessarily agree in meaning. No doubt, value in an object arises from the mind's valuing or having an esteem and desire for it. But it is in the object—the quality in it which excites desire, not the mind's feeling or desire. But this objective thing, whether labor or the product of labor, may have the essential elements of value irrespective of exchangeability. Many articles produced by farmers, and especially by frontiersmen, for their own comfort or sustenance, have value for them equal to all the labor they cost, altho they have no exchangeable value whatever, on account of distance from market. It is needless to multiply the instances in which this may be true of perishable or bulky articles that can be had only by human labor, and are indispensable to man and beast. We do not say that value might not be at once so extended and circumscribed by generic and differential adjuncts, that an adequate definition of political economy might be constructed with this as its central idea. And in cases of necessity it is often advisable to take a word vague and equivocal in common speech, and give it a more precise and technical signification for scientific use, as is done with Perception and Conception in psychology. But we have better means of a precise definition of economics than the word value, so justly condemned for such a purpose by Prof. Price. If there are any words to which economic usage gives an unambiguous meaning, they are Utility, Labor, Effort, Sacrifice. And this corresponds with their commonly accepted meaning. Out of these it seems to us possible to construct a definition of political economy more precise and adequate, at least, than any yet brought to our attention, and one,

too, which includes **whatever** is true in each of the other definitions we have specified.

Utility, as a term in economics (we have just here no reference to ethics), means whatever meets any want or gratifies any desire of man. Labor is human effort directed by the Reason and Will to the production of such utilities. (*Economics is the science of the phenomena arising from the desire of man to obtain the maximum of utilities which are the result of labor acting in some way on material objects, with the minimum of effort including sacrifice; and of the laws in accordance with which he can best attain this result consistently with the internal and external conditions to which he is subject.* Sometimes this effort or labor may be chiefly mental. This is provided for in the definition of labor itself, which is always mental in its source, spring, and guidance.

Applied to the efforts of men in organized society, whether to states seeking to increase their own material resources at least cost, or to further the efficiency and fruitfulness of their people's labors by appropriate legislation, it is POLITICAL ECONOMY. All thorough treatment of economics considers the individual man, and man in society; the desires that in these relations impel him to labor; and in what ways they impel him to labor for their gratification. It also inquires how different kinds of economic legislation by the state tend to affect its own resources, and the productiveness of the labors of its people.

The substance of this definition of pure economics will be found, in germ, in a number of treatises, and, by implication at least, in nearly all. Thus Jevons: "The great problem of Economy may, it seems to me, be stated thus: *Given, a certain population, with various needs and powers of production, in possession of certain lands and other sources of material: required, the mode of employing their labor so as to maximize the utility of their produce.*"

This idea of political economy is central in a twofold way: (1) As the desire of man to gain the maximum of utilities with the minimum of effort, subject to the limitations indicated, is the final cause or ultimate end of the science, whether as affecting man individually, socially, or politically; and (2) as in ascertaining truths, laws, or tendencies which may guide men in

realizing this desire, or states in legislation to promote it, the prime facts to be understood and considered are—How will men on the whole act under given circumstances? How do they act in present circumstances? How will they act on the supposition that these circumstances are altered by legislation or otherwise? Thus, with the present habits of our people, we know that for all sums greater than fractions of a dollar they prefer, for various reasons, for ordinary use, a perfectly convertible paper currency, to the metallic dollars into which they are convertible. But should government order the issue of a large quantity of irredeemable paper dollars, whether legal tender or not, the people would prefer to *take* metallic dollars in place of them, and *to pay out*, for the discharge of their debts, these in preference to gold and silver; because the latter having a higher purchasing and debt-paying power, in *international* trade with foreign countries, they would inevitably soon come to be at a premium here over inconvertible paper. All this more than fifteen years' experience (since 1862) in this country has abundantly illustrated. During this period, next to no gold and silver was in circulation, because it was more valuable in the bullion market. All legislators may know that heavy taxes on property, or titles to property, easily concealed will be largely evaded, throwing unequal burdens on honesty and offering a premium to dishonesty.

The foregoing definition of political economy, in our judgment, includes whatever of truth, and avoids whatever of error or deficiency characterizes the current definitions.

It certainly includes whatever is true in those definitions which make it the science of wealth. Wealth is the sum-total of commodities, or of material objects having a utility impressed upon them by human labor, in virtue of which they have a value either in use or exchange. Now the whole scope of political economy, as respects wealth, is to ascertain according to what laws the maximum of such commodities can be produced with the minimum of labor, and in conformity to the laws of our rational, moral, and physical constitution. In other words, it is the science which sets forth the laws according to which our wants are supplied in the largest measure with the least waste of human effort and sacrifice. But, besides being the science of utilities produced by human labor, and embodied in commodi-

ties more or less enduring, it is the science of utilities produced by human labor or services terminating in modifications of material objects however tenuous, transient, or perishable. The labor of the body-servant or nurse even when they simply produce a momentary modification in the condition of the employer's body, and thence of his mind; of the musician or orator who produces those momentary vibrations of the air we call sound, through these reaching the minds and gratifying the desires of others; of the acrobat who so affects his own body, his implements, fixtures, animals, the surrounding air, as to reach the vision and delight the mind of the spectator; the various services of professional men, come within the scope of this definition, and equally whether obtained by exchange and purchase or not. It is utilities, whether transient or enduring, imparted to material substances by human labor, all and singular of these, and these alone, that constitute the subject-matter of Political Economy. And the problem is, how to get the most of them, in due subordination to every element, interest, and law of our nature which they ought to subserve, with the least expenditure of labor and sacrifice. This is economy in individuals, families, societies, and when applied to states or masses of people politically organized, it is Political Economy.

This definition covers whatever of truth, and excludes whatever of error, is involved in defining it as the science of exchange, or exchangeable values. Certainly it includes all these, and they occupy directly or indirectly the larger part of its domain, because exchange is so largely the instrument by which the increased efficiency of division of labor in production can be availed of. But as we have seen, a given amount of human labor often compasses the maximum of utilities without resort to this agency. The difficulties into which this definition of the science drives such eminent writers as Professor Perry and Mr. McLeod have been in part well pointed out by Professor Price, but only in part. One of the consequences is the definition of labor as "any human exertion that demands something for itself in exchange. . . . Nothing is labor that does not look to a sale. Labor, like everything else in political economy, is tested by the criterion of a sale." ("Introduction to Political Economy," pp. 94, 95.) If then a farmer plants, tills, gathers,

husks corn for his own consumption, and that of his animals which he uses but does not sell, this is not labor. But if he does it for the purpose of selling these products of his hand, it is labor! Surely theories and definitions leading logically to such consequences must be defective. Again, "Value has no existence in connection with one thing or one person." And is the pet horse which a man has reared with toil and care for his own use exclusively, and with no thought of sale, perhaps when he is so far from market as not to be salable, without value? Again: "*Value is not a quality of any one thing, but a relation subsisting between two things.* It is, as the definition gives it, *a relation of mutual purchase.*" We humbly submit, as we have said before, that "the relation of mutual purchase" has been shown to be not the essence but one of the accidents of value; that this, too, is some "quality of a thing," held in such estimation or so desired by some person or persons that, they are ready to work, or to give what has cost work, to obtain it. And the amount of service, or products of service which they are willing to apply to its procurement, is the measure of its value.

Another anomaly born of this narrow definition of political economy, as solely the science of exchange, is that no human effort or its result is entitled to be regarded as Production, unless designed for sale or exchange. This is argued even from the etymology of the word by Mr. McLeod in his "Economic Philosophy," also by Prof. Perry, who says: "The term Production is derived from the Latin word *producere*, which means *to lead forth, to expose for sale.* Terence uses the expression *producere servos*, to offer slaves for sale. . . . In common language, the growth of the farm is called *produce*, but only when it is offered for sale, in which sense we speak of the *produce market.* The fundamental meaning of the root-word both in Latin and English is *effort with reference to a sale*; and this is the exact scientific sense in which I propose to use the word and its derivatives. I hope I am making at this point a slight contribution to a more exact nomenclature of political economy." (Introd. to Pol. Econ., pp. 70, 71.)

We should be glad to share this hope, but will soon show why we cannot, especially in the light of the illustration he proceeds to give thus: "Production is always effort, but it is not

every kind of effort that is production. My boy is now playing the piano in the parlor; it is effort for him,—irksome effort,—but as he has no intention to sell his acquired skill upon that instrument, it cannot be called *productive* effort. It is effort put forth for altogether other than commercial reasons. The effort of his music-teacher, however, who comes here to give him his lessons is productive effort, inasmuch as it is put forth solely with reference to a sale." (pp. 70, 71.)

Are not such distinctions too artificial and arbitrary to stand? Would it be any the less production if the music-teacher should give his services, which develop this musical skill, gratuitously, out of friendship or pure benevolence? Suppose that the musical skill so acquired, tho first *intended* only for the unpaid gratification of the learner and others, should, as often happens, come to be used in teaching or entertaining others for pay, is it any more or less a product because he had no such intention in acquiring it? Are not sheep, raised exclusively with the design of being prepared and consumed for food and raiment in the family of their owner, produce? Nor is the etymological argument much stronger. We are sure that, while the generic meaning of *producere* is to lead forth, that of leading forth for sale is only one of manifold specific applications or modifications of it "in Latin and English." It just as much means to produce for use as for sale; and it means to produce in the sense of bringing new utilities into being by human labor with either intent. Any Latin lexicon will show that bringing forward for sale is only one of several meanings of *produco*; while Webster does not in any instance thus define the English corresponding verb, adjective, or noun. He defines to produce as meaning "to bring forward; to bring forth; to bear; as plants on the soil; to cause, to effect; to bring into existence; to raise; to bring into being; the farmer *produces* grain enough for his family; . . . the manufacturer produces excellent wares," etc. etc. In a word, it signifies not so much to bring to market as to bring to view or into being, and this whether for use or for sale. A farmer producing grain for his family surely is not producing it for sale.

Another erroneous consequence of the dogma that political economy is the science of exchange, including all exchangeable things and no other, is the corollary that incorporeal rights,

hereditaments—mere paper evidences of the title to property or ownership of wealth, or means of commanding the use of capital—are themselves property, wealth, or capital. They will exchange for money or valuable things, and therefore are wealth or capital. This error has been well pointed out by Prof. Price. Mr. McLeod places incorporeal rights in this category. Prof. Perry tells us that “credit in all its forms is *an addition* to the mass of other exchangeable property. . . . This secured property is a claim on the buyer of the goods for some form of property to be rendered by him in the future.” According to this, when one sells to another a house, and takes a mortgage for it, there is an immediate doubling of the property. The house still exists. The mortgage has been created in addition, which also is property. But is it not undeniable that the only real property in the case is the house? The mortgage is simply evidence of the extent of the mortgagee’s continued ownership in it, until the mortgage is paid in money or other commodities. If credits are a real addition to property, instead of being the mere means of its conveyance from the lender to the borrower, then a simple way of duplicating the property of a country would be to sell it all on credit. Nay, these credits or titles to property might themselves be loaned, as often happens. Thus property might be trebled and quadrupled, and so on—paper credit strung upon paper credit, according to the most progressive financial kiting, *ad infinitum*.

Much to the same purport is the doctrine laid down in regard to bank deposits, and the loan of them to borrowers. “The gain for the whole community from such operations in credit is that a *new capital* has thus been created, a new purchasing power, something in the world of value additional to what existed before” (p. 284). No new capital is made by simply placing money, or loanable funds, or the title to them, in a bank which loans such resources to its borrowers. This creates no new “capital,” but simply facilitates the distribution of existing capital to the parties able to use it profitably, and to pay a suitable reward in the form of interest for it. “Purchasing power” in the form of credit is not capital, altho it helps procure the loan of capital. It may thus facilitate its passing into the hands of those who will use it most profitably, and so make it an instrument in

the production of wealth, by promoting profitable exchange or otherwise. Credit as a "purchasing power," if unduly inflated, contributes to the destruction of wealth and capital by tempting to unwarranted extravagance of living, and to enterprises which consume, but do not replace, or remunerate, capital.

As to shares, bonds, or other credits in public securities, national, state, or municipal, in railway, mining, manufacturing, or other companies, they are simply the rights of the owners, in the former class of cases, to a certain amount of the wealth of the political communities which owe them, and are payable from that part of the products of the community which are obtained by taxation; in the latter class of cases, to a certain share of, or lien upon, the property, with its income, of the respective companies concerned. They are incorporeal property in a legal, but not in an economic sense. They are evidences of a right to material commodities. The same is true of such typical instances cited of intangible values, as the good-will of a store—which is simply the disposition of the customers it has acquired under skilful and upright management, to continue to trade or make exchanges with it on terms which will better remunerate the labor and capital it employs than would otherwise be possible. Buying this is merely buying the equivalent of another motor to increase the productiveness of labor and capital.

The definition of the science of political economy we have offered includes that which makes it the science of the phenomena of wealth, in the production of utilities embodied in material objects, *so far as these are in any manner due to the agency of the human will*. All the phenomena with which it has to do certainly fall under this category; for they are the result of Labor. And Labor is the effort of man directed by his reason and will to the production of utilities. With utilities otherwise produced it has no concern except as related to them. The relation of economics to other utilities and to other sciences, physical and mental, is that they furnish light to the reason for the guidance of the will in most easily producing those effects on material objects which will satisfy desire. But its own sphere is distinct from those sciences except where they are conterminous with it, and, as happens in other sciences thus reciprocally related, so far seem to interpenetrate, that it is not

always easy to detect a breadthless line which absolutely divides them. It is quite commonly thought and said, economics involves the knowledge of those physical sciences, pure and applied, which shed light upon methods of easiest production. This is impossible, and would involve the impracticable feat for the economist of becoming an encyclopedist in science. Instead of this it takes, and supposes that men in the pursuit of wealth will, so far as they have normal intelligence, tend to accept and utilize, whatever other sciences, pure and applied, have discovered or invented which may so aid or direct labor as to render it more effective. The economist, *as such*, is not an expert in regard to mechanics, chemistry, optics, acoustics, heat, electricity, magnetism, metallurgy, mining, biology, physiology, medicine, hygiene, meteorology, soils, climates, drainage, steam-engines, telegraphs, machines, and the like. He takes, and he assumes that, in the absence of counteracting forces or influences, men will utilize, whatever is established and made ready to their hand on these subjects by experts and authorities in the several departments outside of this. Economics touches, without including them, only at those points where they afford light to guide the effort of man in the most efficient production of material utilities. But in the same way ethical science, in its applications to concrete human action, at all events to men in judging how to act rightly, may receive light from all such sciences, including economics. Meteorology may give us weather probabilities every day, hygiene may reveal conditions of health, which ethically we ought not to disregard, without their being a part of the science of ethics.

As economic science has to do with material utilities only as these result from the effort of man striving to gratify his desires under the direction of his will and reason, so its determining principles and laws are found in the actings of the human soul in the premises. All else in material objects, apprehended by the intellect, and sought by efforts prompted by the desires and will, is manifested by the sciences specially concerned with showing their properties and laws. Hence, if we inquire whether it properly classes with the mental or physical sciences, it chiefly finds its place among the former. It is natural and common to class it with the sciences of matter, because it has to do with the

production of material utilities. But a moment's attention shows that it has to do with these only as far as they are the products of effort directed by the reason and will to the gratification of desires—all mental. Prof. Cairnes regards it as "belonging neither to the department of physical nor to that of mental inquiry," but as having for its subject-matter the complex phenomena presented by the concurrence of physical, physiological, and mental laws." This view is ably supported by him. But we see nothing in his argument to rebut the reasons we have given, or which would not bear equally against ethics ranking as a mental science. In determining what is morally right in dealings between man and man, does not much depend upon a knowledge of physical and physiological laws, facts, and conditions? How otherwise can duty be done in the nurture and education of children, or in rendering unto servants that which is just and equal, or providing things honest in the sight of all men? In both economics and ethics, however, it is more in the application of their respective principles, than the pure principles themselves, that they thus become complicated with any inquiries of physical science. Pure economics is the science of tendencies towards certain results, whose accomplishment depends upon the presence or absence of concurrent or contrary tendencies. But as a science whose phenomena are determined by the will in conjunction with other mental faculties, it classes with the mental sciences as truly as ethics, whose phenomena are similarly determined.

It is in place here to say a word more in respect to the relation of this science to ethics, with which it classes as dealing with phenomena determined by the intellect, desires, and will of man. Yet its province is not primarily ethical, or the ascertainment of ethical laws, any more than it is mathematics or ontology. But it assumes that man ought to be governed by ethical and religious truths. These the actions of rational and accountable beings can never violate without a loss and wrong which no gains of material or other advantage can compensate. Its function is not to teach moral science, nor to release men from its behests; not to give a philosophical analysis of conscience, nor to annul its categorical imperatives; not to impair the authority and practical standards of Scripture, but rather

to show men how they may most effectually carry out its requirements in respect to what must be the constant task of the great mass of mankind; how they may put their talents to the most productive use, so as not to be unprofitable servants; owe no man anything, render to all their dues; provide for their own; have wherewith to give liberally for charity and religion. The constant injunction of the Bible is to diligence and against sloth, insomuch that "if any man would not work, neither should he eat." Economics aims to help him make these labors more productive and less abortive; and to aid statesmen in ascertaining what legislation will tend to promote or hinder this result of the labors of the community at large. It aims simply to prevent the needless waste, and promote the richest fruits of human toil. Whether the desires that stimulate such toils and the methods of conducting them are or are not in violation of morality and religion, it submits wholly to the disposal of morality and religion. Whoever fails to "do justice, love mercy, and walk humbly with his God," in his efforts to get subsistence, enjoyment, or wealth, with the least toil and sacrifice, does so at his peril. There has been a great confusion of ideas on this subject, fostered by a want of due discrimination, not only in the popular mind, but by some leading economic writers. It is supposed that the science is quite regardless of humanity, morals, and religion, because it does not directly treat of these any further than they have to do with the efficiency and productiveness of human labor. The same objection might be brought against the science of electricity, engineering, or even mathematics and common arithmetic. They do not deal directly with ethics. Those engaged in them in furtherance of the good purposes they are capable of serving, and in conformity to ethical laws, use them for good, altho they may be perverted to other ends. Arithmetic ought to be employed in such a way as to promote honesty in exchanges, by right weights and measures. But while it may and should be used to assist, it does not teach morality. It is frequently abused by dishonest fiduciary agents to hide embezzlements and protect dishonesty. The steam-engine, printing-press and post-office may be employed for the circulation of a pure and wholesome literature, or of foul and obscene sheets and pictures. But none the less do

all who aim to do good in the use of these mighty agencies desire to have them so contrived and constructed as to produce, with a minimum of effort, the maximum of good results. Our missionary and charitable societies rightly use steam and all available appliances to accomplish the largest possible good with the resources at their command. The steamship and its engineer concur with the economist in promoting this result, altho *per se* they are not in the sphere of ethics and religion, but furnish means of energizing human labor in a way that may be used for the best, or abused for the worst purposes. The same ship that takes the missionary to Christianize the heathen, may take the "liquid fire and distilled damnation" that shall diabolize and ruin them.

But while economics is not ethics, tho it always assumes that its ends are to be prosecuted in conformity to ethical and all other known truth, it must not be forgotten that sound morality is always and everywhere productive of the highest economic thrift. If we look no further than simple fidelity and superiority to eye-service in the laborer, in ways innumerable such labor is vastly more productive than that of shirking and shiftless men. The Christian virtue of prudence in providing against the time to come, prevents waste and promotes savings and the accumulation of capital. Credit, which, tho not capital, is, if not abused, the mightiest instrument for placing existing capital in the hands that will most effectively use it, has its roots in strict industrial and mercantile uprightness, which most thrives in an atmosphere of pure morality and religion. The collapse of credit is always the collapse of trade and manufactures. Further still: the true spirit of religion and philanthropy will tend more than all else to ease the friction between employers and employés, mistakenly called the conflict of labor and capital, by producing a feeling of mutual interest and dependence, so that neither can say to the other, "I have no need of thee;" that both may feel the prosperity of each to be the prosperity of all; and that for these parties to conspire against each other, is as if the body should set itself against its members, or these set themselves in turn against the stomach. A war of labor against capital is a war against the unspent fruits of past labor saved to aid and support present labor.

Some writers, of whom Professors Newcomb and Stanley Jevons are examples, maintain that economics can yet be placed upon a mathematical basis; that the desires which give rise to all economical phenomena are reducible to the desire to obtain pleasure and avoid pain; that this can ultimately be put in quantitative relations and proportions capable of mathematical expression, like some of the physical forces; that thus a few facts of observation or inductive generalization, being set in mathematical formulæ, will constitute a basis or calculus for innumerable deductions, as in astronomical science eclipses and other phenomena are calculated with unflinching accuracy for centuries. Prof. Jevons applies this view, of course, to ethics, which, according to the Hedonistic system of Bentham and Paley adopted by him, must stand upon the same footing. We have seen no evidence, however, that human desires can be mathematically measured. Unquestionably when we pass from the domain of pure economic science to its practical applications, from tendencies to facts, however complex their nature or origin, figures as well as facts enter largely in. We cannot take the first step in using money, or making it the measure of value in accounts, without arithmetical figures and computations. But this is very different from ascertaining and expressing ethical and economic *laws* mathematically, or by mathematics as a calculus. It is one thing to find the economic law that prices oscillate with the ratio of supply to demand, or that a baser currency will drive out of circulation a more precious one having only the same debt-paying power; another to collect statistics expressed in numbers, which may illustrate this law and other influences always concurrent with and qualifying its influence. We agree with Prof. Cairnes "that, having regard to the sources from which political economy derives its premises, the science does not admit of mathematical treatment."

But altho not a mathematical, it is characteristically more an *a priori*, than an *a posteriori* science. It could hardly be otherwise when it constrains so distinguished an empiricist as J. S. Mill to declare it so. He says (see "Unsettled Questions in Political Economy," p. 146): "We go further than to affirm that the method *a priori* is a legitimate mode of philosophical investigation in the moral sciences; we contend that it

is the only mode. We affirm that the method *a posteriori* or that of specific experience is altogether inefficacious in these sciences as a means of arriving at any considerable body of valuable truth, tho it admits of being usefully applied in aid of the method *a priori*, and even forms an indispensable supplement to it." It is not *a priori* in the high Kantian sense of obtaining its premises and the sources of its premises without experiential proof—as is the case in pure mathematics and logic. Its premises are found in what we know, from experience, to be the longings, views, and volitions of human nature in regard to material utilities, and the easiest method of gaining them. But these being given, we can reason from them to their average actings in given circumstances, and from these actings to certain great economic laws, and from these again to the tendency of given legislation to further or hinder the productiveness of a given amount and kind of human labor. We may know beforehand, from the workings of human nature as such, that, *ceteris paribus*, a depreciated currency, increased taxes, the enormous demands of a great war, failure of crops, will lighten prices, and thus augment the profits of those already having goods to sell purchased at former prices, at the expense of all who buy them for consumption. This *a priori* deduction, too, may be illustrated and confirmed by the facts ascertained *a posteriori*. But suppose we had nothing besides the fact of the immense rise of prices during the late war, what economic truth would that establish, unless we knew not only *a posteriori* the facts which preceded it, already enumerated, but *a priori* the causative tendencies of these several groups of facts? In addition to the factors above specified others might be named, affecting not only prices but general prosperity as well—such as the general moderate depreciation of gold itself in other countries, the discovery and development of the petroleum trade, the vast extension of railway enterprise, etc. etc. Says Mr. Cairnes: "In presence of influences so numerous, so novel, and so vast, each affecting industry in its own fashion so powerfully, who shall say what portion of what we now find existing can be attributed to any one of them? The problem, in its mere statement, brings into striking relief the utter futility of that so-called 'inductive method' which some writers hold to be the

proper one in social and economic inquiries—the method, that is to say, which would proceed by drawing general conclusions as to the operation of particular causes from the summarized results of statistical tables.” (See his “Political Economy,” p. 389.)

The fallacy of *post hoc ergo propter hoc* is among the most common, specious, and shallow of all. But nowhere has it had a more disastrous prevalence than in popular economics. We once heard a juvenile orator captivate some of the magnates of the land by arguing that the imposition of a certain grade of impost taxes by Congress had been followed by seasons of industrial activity and prosperity. The same is true of the conflagrations in great cities destroying property by tens and hundreds of millions. The building trades immediately flourish in consequence of such enormous impoverishment of communities. But the commercial crash of 1873 was precipitated by these, as well as by unproductive outlays in railways, speculation, overdone manufacturing and trade, and extravagant living. One of the most opulent men of the country, whose riches were the fruit of his own energy and sagacity, said to us in the most destructive crisis of our civil war, “This war is creating immense wealth!” So it did for a few at the cost of the many—not increase of absolute wealth indeed, but, while destroying it, transferring much of the remainder to contractors, speculators, and the fortunate owners of and dealers in certain kinds of property. Fortunes were made out of the fluctuations in the gold premium so costly to the country. A common talk among sympathizers with the great railroad strike and riots of 1877 was that the destruction of railroad property would be a good thing because it would make a better demand and higher prices for labor to replace it! It has been well observed that when prices of given articles are high, they are scarce; when low, they are plenty. The mere statistical or inductive method, which does not look to *a priori* causative influences, would thence argue that the way to stimulate plentiful production is to depress prices: whereas it is not low and unremunerative prices of articles, but the contrary, that stimulates production. If, indeed, the reduced price is still within remunerative limits; and, by increasing consumption, in this way increases production, or by cheapening production

when this is enlarged to meet the proportionally increased demand, then, up to a certain point, demand and supply may be mutually intensified by lowering prices. But all this is learned not by mere statistics, but by rightly estimating the causative influences in the antecedent facts and resulting motives to human action, which give rise to and explain these phenomena.

LYMAN H. ATWATER.