

Objectives and Methods in Teaching the 'Principles' of Economics

By HARRY GUNNISON BROWN

READING A HISTORY of Greece back in my high school days, I recall running across a story—perhaps apocryphal—of a teacher of music who charged double rates of any pupils previously taught by any other teacher. There was so much for them to unlearn that the task of making competent musicians of them was, he felt, especially difficult.

Something of this same difficulty confronts the trained and conscientious teacher of economics. For many—perhaps nearly all—of those he teaches have picked up a very considerable amount of misinformation. This is largely in the form of popularly held fallacies which they have read in newspaper editorials, heard in political speeches or gathered in from street or barber shop conversations. And it is really pretty important—I was on the point of saying superlatively important—that they come to see clearly wherein each such common opinion is fallacious, and that the lesson and conviction be not temporary and superficial but permanent and profound. Otherwise these same students, in turn, will be—like those from whom they absorbed their ill-considered views—the sponsors and protagonists of unwise and injurious policies.

Among such fallacies are the following:

- (1) That it is conducive to the general prosperity and to one's own prosperity to purchase goods in one's home town notwithstanding they can be purchased more cheaply elsewhere.
- (2) That, however desirable it may be for us to trade with foreign countries, it is injurious for us to purchase goods

from a country on a "lower standard of living" than one's own.

- (3) That if and because the people of a country have a low standard of living, therefore they are able to and will sell their goods at lower prices, *i.e.*, "undersell" goods produced in high standard of living countries—whereas, in fact, whether the standard of living is high or low has *nothing to do with the matter*.
- (4) That business depression and unemployment result from the paying of low wages to employees who, therefore, are not able to "buy back what they produce," thus making these goods unsalable, and
- (5) That to increase wages provides more employment.
- (6) That for government to take by taxation or borrowing, the money *we* would spend or invest and to use this money for public works, is an effective remedy for unemployment.
- (7) That to tax others for the purpose of helping out a special group—*e.g.*, to give benefit payments to farmers or pensions to the old—adds to the prosperity of the persons taxed because the recipients of the payments have more money with which to buy goods from those taxed.
- (8) That it is the nature of machinery to reduce the opportunities for employment.
- (9) That higher sale prices for land constitute a general economic gain.
- (10) That the maintenance of the value of paper money is dependent upon their being a specie reserve, *i.e.*, "something back of it."

In the process of refuting these fallacies, the teacher can sometimes free the student from a number of his group or class prejudices, too. Of course it helps if the teacher himself is not too greatly thus afflicted!

I

THE STUDENT SHOULD LEARN—if he is ever to reason competently on economic problems, he must learn—the usefulness of deductive reasoning from broad generalizations. Such an empirical generalization as that men prefer more to less and, therefore, will usually choose to work in industries where the pay is larger rather than where the pay is smaller, does not have to be true without any exception in order to be most useful to us. If it is true *in general*, we can deduce, for example, the effect of a tax on production of a particular kind of goods—*e.g.*, potatoes or cigarettes—in raising the price of the goods taxed.

It is from such generalizations that we are able to deduce some of the most important truths of economics, truths that are highly significant for the determination of wise public policy.

Thus, the student may advantageously be taught how impossible it is to arrive by direct induction at the conclusion that a protective tariff does or does not make a country more prosperous. He may—and should—learn to look with suspicion on those superficial commentators who refer to the carefully worked out deductive reasoning on the matter as “mere theory” and who insist on direct appeal to “the facts.” He may—and should—have pointed out to him that the relative prosperity of a country is the result of many things, *e.g.*, abundant natural resources, sufficient and good machinery, well-trained and skilled workers, unrestricted trade *within* the country, etc.; and that the contribution of either unrestricted trade with foreign countries or a protective tariff against their products, to this happy result cannot be inductively ascertained unless the effect of each other cause is first subtracted. In short, a valid inductive process would have to be, in this problem, the “method of residues,” and in such a problem this method is obviously impossible of application.

To bring home to the student the ridiculousness of the contention that we should, in this matter of free trade versus "protection," reject deductive theory and rely on direct induction from "the facts," reference may be made to a satirical presentation of a similar inductive argument, attributed to Mark Twain. The statement was, in effect:

The most dangerous place anyone can be is in bed. For more people die there than anywhere else.

We can imagine this line of argument to be carried further—as, in the case of the protective tariff, it often has been—as follows:

Yes, your *theoretical* medical men may contend that sick people should be put to bed for recovery. But they're just *impractical, academic theorists*, unfamiliar with practical things. I'm a practical man. I certainly don't take any stock in mere *theory*. I look for the *facts* and the facts are that more people die in bed than anywhere else.

In considerable degree a good course in fundamental economics is also a training in applied logic. If the student has already been through a thorough course in formal logic, he may be somewhat advantaged. But the requirements for the first year or two of college work and, also, the chronological order in which college courses are taken vary from one institution to another and I am not inclined to urge that the course in logic be made, generally, a pre-requisite for the course in the "principles" of economics. Indeed, advantage may lie in either order: the applied logic of the course in economics—as of the course in any of the physical sciences—may be helpful in the course in logic if the chronological order of exposure is reversed!

II

WHERE THE THEORY being surveyed readily permits of it, the student should learn to see and express in quantitative terms, the relationships discovered. The relationships are

likely thus to become much clearer in his mind and to be better remembered. This does not mean that use should be made of the calculus or even of complicated algebraic formulae or of complicated graphs. If the study of economics is to have appreciable influence on policy in a democracy, it should be open to others than students who have majored in mathematics. *And it can be.* An understanding of the advantages of international trade, of the effects of increasing and decreasing circulating medium on the price level, of how deflation may affect employment, of the relation of price to cost of production, of the determination of a rate of interest, etc.—these do not require extensive preliminary training in mathematics. Such mathematical formulae and problems as are introduced into the basic course in economics should be simple. They should not be introduced for their own sake—and certainly not to give prestige either to the teacher as a skillful mathematician or to mathematical methods—but only as and when they really do help the student to comprehend important economic relationships. This, in my experience, they sometimes do in marked degree. And to accomplish this result I have found it unnecessary to go beyond arithmetic and the very simplest algebra. But students with considerable mathematical training and ability of course will handle even such simple problems as I thus give, with a quickness and facility which other students may not display.

Sometimes the analyses of economics are referred to caustically as not enabling us to make precise predictions. And economics is thus contrasted unfavorably with physics and chemistry. But, in truth, the difference is, at most, rather one of degree than of kind. Determining where a projectile will strike is a problem of physics. The investigator may calculate the initial force with which it leaves the muzzle of the gun. He may then correct his estimate of the path

the projectile will follow by allowing for the influence of the earth's gravitation, and conclude that this path will not be a straight line but a curve. But before he decides just what the shape of this curve will be, he should take into account the resistance of the earth's atmosphere. Furthermore, if the projectile has been shot upward at (say) a forty-five degree angle, and with great initial velocity, allowance must be made for the fact that it goes through air of different densities. And what if, after calculations have been made, the barometric pressure changes? Or what if the wind is blowing? What, especially, if there are shifting winds which differ at various places through which the projectile passes? Would the person who scouts the reasoning of the trained economist then say to the physicist:

Your alleged "science" is no good. It's just a lot of impractical theory such as we naturally expect from a cloistered "professor." According to your calculations the projectile ought to have struck this maple tree about ten feet from its base. In fact, it did not hit the tree at all but passed well to one side of it, and was considerably higher than you calculated. Hereafter, when I want to know how to aim, or where a projectile aimed in a certain way will hit, I'll listen to some practical man who doesn't bother with your academic "theories."

Again the reasoning of the man who insists that "the most dangerous place anyone can be in is in bed, for more people die there than anywhere else"!

The truth is that the physicist, like the economist, can tell only what will happen *under given conditions* and can predict exact occurrences only as he knows precisely the forces in operation. In the laboratory he can exclude such forces as varying winds. But when applying his theories in the great out-of-doors, he is in much the same position as is the economist who applies his theories to a great and complex society.

Nevertheless the theories, alike of physics (or chemistry, etc.) and of economics are useful. The economist may not

be able to predict, in case a tax is levied on (say) the growing of potatoes, that the price of potatoes will be higher in the succeeding season or year than in the year before the levy of the tax. An exceptionally good growing season or year may make the output larger and the price lower despite the tax. What he can say is that the price will be higher with potato growing taxed *than* it would be under the same seasonal and other conditions if potato growing were not taxed. Here he is like the physicist who cannot say that if an arrow or other projectile is started on its course a little more to the right than on a previous occasion, it will necessarily land further to the right than before. An uncalculated gust may deflect it. What he can say is that it will land further to the right than it would land under the same conditions of air currents, etc., if it had not been pointed so at the beginning.

III

IN PRESENTING TO MY STUDENTS in the "principles" course the subject of international trade and that of the protective tariff, I make use of an illustrative arithmetical problem. By means of it, I endeavor to make them see clearly that a country with "a low standard of living" is definitely *not* able, on that account, to sell its products more cheaply than if it had a relatively high standard of living. And I am convinced that by using this problem, introducing additional and realistic modifications during the discussion, I can give my students a picture and an understanding of the approximate reality that I could not give them equally well in any other way. Thus I can make them see that, in the application of economic principles to this particular problem the economist follows much the same method as does the physicist who, by introducing into his hypothesis successive forces (initial velocity, gravity, resistance of atmosphere, etc.), is able approximately to picture and explain the course of a projectile.

Here is the problem as it is presented in the Appendix of my "Basic Principles of Economics":¹

Assume that, in Country A, which has a high standard of living, a day's labor of one man can produce:

- 10 bushels of wheat or
- 2 tons of coal or
- 40 gallons of gasoline or
- 20 yards of cotton cloth or
- 5 yards of heavy woolen cloth or
- 10 bushels of rice.

But in Country B, which has a low standard of living (just because of the low productiveness of its labor), a day's labor of one man can produce

- $\frac{1}{2}$ bushel of wheat or
- $\frac{1}{8}$ of a ton of coal or
- 3 gallons of gasoline or
- 4 yards of cotton cloth or
- 1 yard of heavy woolen cloth or
- 2 bushels of rice.

We shall suppose, also, that these goods will sell in the world market at prices of

- Wheat, \$0.80 per bushel;
- Coal, \$4.00 per ton;
- Gasoline, \$0.20 per gallon;
- Cotton cloth, \$0.25 per yard;
- Woolen cloth, \$1.00 per yard;
- Rice, \$0.50 per bushel.

So as to make the problem as simple as possible, we shall ignore transportation costs. To do so will simplify and will not at all invalidate our reasoning so far as concerns the main point at issue.

On the basis of the above assumptions, what would be the income of the worker per day in Country A, if he produces wheat, coal or gasoline?

What price per yard or per bushel would be necessary to make such a worker willing to produce cotton cloth, woolen cloth or rice?

How high would the tariff have to be, therefore, to shut out the cloth and rice from Country B and establish these industries in Country A?

Now consider the case of Country B. What would a worker earn per day if he produced cotton cloth, woolen cloth or rice and sold it at the assumed world market price?

¹ Lucas Brothers, Columbia, Mo., 1942, pp. 109-10.

What price per bushel, per ton or per gallon would be necessary to make him willing to produce wheat, coal or gasoline?

Is it not clear that the people of Country A, with their *high* standard of living, could afford to sell wheat, coal and gasoline at a lower price, each, than could the people of Country B? Is it not ridiculous, therefore, to conclude that the lower standard country would undersell the other in all lines?

How high a tariff would Country B have to levy, to shut out the wheat, coal and gasoline from Country A?

My method is to spend some class time in advance discussing the general theory of international trade and the tariff; then assign this problem in the Appendix of my book for study; then give the class a similar problem with different figures to work during a class hour. During that hour I answer freely any questions on the problem which individual members of the class ask. For, simple as the problem may seem to a trained economist, not a few students seem puzzled as to just how to go to work at it. Another hour of class discussion may be necessary and is usually given. After that, nearly all members of the class (though perhaps not absolutely all!) have, I am convinced, a pretty thorough understanding of it.

As a rule, in giving the practice exercise for class work, I add a paragraph to the problem as given in my book, as follows:

Now multiply all the figures for a day's production in Country B (the country with the low standard of living) by twenty. This makes Country B have a *higher* standard of living than Country A, for its output per person is now higher in almost every line. Will its people still undersell the people of Country A *in the same goods* or will they not? If they will and do, does a low standard of living *have anything to do* with the ability of a country to undersell the people of another country?²

² If some carping critic should suggest that Country B's now enlarged output might somewhat lower (depending on the relation of its contribution, to the total world supply) the prices on the world market of the goods specialized in by Country B, his attention should be sharply called to the fact that it is then the *high* productivity and standard of living in Country B—not its *low* standard of living, as so often claimed—which is tending to reduce these prices!

For a good many students these last questions seem to clinch the matter, not always previously understood, of the irrelevance of standards of living. It is most interesting to hear students say at this point: "Why, the standard of living doesn't have anything to do with the matter, does it?"

But, as has already been noted, the physicist studying the theory of projectiles, would have a most incomplete and inaccurate picture of what happens to projectiles in actual battle, if he considered only initial velocity and the force of gravity. He must certainly pay attention to the resistance of the atmosphere. Likewise the economist, in such a problem as the one we have been discussing, must introduce the fact of *different* costs of production within the same country. Even if it is assumed that Country B cannot fully supply itself with wheat except at a (marginal) cost per bushel of \$2.00, it needs to be recognized that perhaps *some* wheat can be produced in that country at a much lower cost. There may be *some* persons in Country B who can perform that kind of work so well or other work so ill that they would be willing to produce wheat for \$0.80 per bushel or less rather than engage in another occupation. And there may be some farms or parts of farms so good for wheat raising and so relatively unfitted for other crops, that it would pay to devote them to wheat production even at a price of \$0.80 per bushel or, even, considerably less.

By giving due attention to such facts, the student learns why the people of a country may advantageously produce at home a part of what they want of a given commodity (as much as can be produced at a less cost, or no greater cost, than the price of the foreign good) and import the rest.

Space can hardly be afforded here, nor is it appropriate, to go on with all the further complications, monetary and other, that are necessary to an approximately complete theory of international trade and the effects of tariff barriers.

Enough has been presented for the purpose, which is to indicate, in part, a method of approach in teaching economics to the undergraduate student; and to indicate, perhaps especially, a way of making him see that the "mere theory" he may have heard mentioned slightly can, if carefully studied, give him a far better picture of economic society and the forces at work in it than he could possibly get in any other way.

IV

NO STUDY OF ECONOMICS is at all complete, of course—and this is implied in some of the previous discussion—if it does not lead the student to some awareness of the pressure groups and political forces in general by means of which, though inconsistently with what may be considered the normal mode of operation of the system of free private enterprise, laws are promulgated which lay some of us under tribute to others of us. Greater realism and interest will be given to the course if the teacher—or the text or both—cites particular cases. Protective tariffs combine such collection of tribute with general economic waste and loss, *i.e.*, even if and when some gain at the expense of others, they do not gain (on the average) what the others lose.

Obviously many things in the student's background and training may help him to understand and appreciate the nature of the problems that confront him in the field of economics. If he has a broad background of history, if he has studied government and comprehends the working of political forces, if he has a practical understanding of psychology either from a study of that subject or from wide reading in general or wide experience with men, if training in the natural sciences and mathematics has familiarized him with careful research and quantitative thinking, if a study of logic has developed skill in distinguishing valid reasoning from fallacy—if the student beginning the study of eco-

nomics is equipped with all this background he will thread the devious paths of economic analysis with a sure-footedness that would otherwise be impossible for him. But teachers of economics cannot expect most of their beginning students to have had all of this very desirable preliminary training. In practice, the college student pursues various lines of study simultaneously and the teachers of none of them can well exclude—nor would most economics teachers wish to exclude—all students who have not given extended study to all the others.

In this connection, however, I do want to register my dissent from a view that seems to have gained favor at a few institutions of higher learning which enjoy a certain prestige, the view that in place of beginning courses in various separate social studies, such as economics, there should be a more general and all-inclusive course. This course includes or is expected to include work in history, government, economics and perhaps anthropology and sociology. It is supposed to be, thus, an "integrated" course in the social sciences.

Unless a very great deal of the student's time is devoted to such a course for perhaps a year or more, the economics part of it is likely to give him only the merest smattering of economic principles.

But what concerns me especially here is the assumption that the student is better equipped to understand and profit from economic analysis through having it preceded or accompanied by (and so in some sense "integrated" with) all or most of the other social studies, than by having it preceded or accompanied by work in a variety of other fields such as some of those referred to several paragraphs earlier. And since a student's period in college is limited, it is unlikely that he will ordinarily be prepared in *all* of the various fields which might be helpful in his study of economics.

My own opinion is that we should encourage the would-be economist to seek an understanding of many things other than economics, to the end, among others, that he may be a more trustworthy guide in the field of economics itself. But I would not prescribe for him a particular and extended sequence of courses in the "social sciences," to the probable exclusion of work in some of these other fields, on the basis of any theory that thereby his study would be more "integrated."

I do not think the general course in economics should be chiefly descriptive and factual nor that it should be burdened with definitions. Rather should it be, in the main, a course in applied logic. Some textbooks in the subject are heavily padded with factual data which the student feels he must learn in order to "get a grade" but from which he will gain no understanding of cause and effect relationships and no significant economic philosophy. Those facts, almost inevitably, he will soon forget.

Nor do I believe that the college student should be required, or encouraged, to take, before beginning his course in the "principles" of economics, an introductory "description of economic life." Such a course gives no training in analysis of cause and effect relations. To the student who enjoys reasoning, it is likely to be a bore—and, in general, college students ought to be trained to reason rather than merely to memorize detailed facts. Furthermore, it is not likely that such a purely factual and descriptive course will be much help in the course in "principles," even on the factual side. Students commonly have some knowledge to begin with of the superficial aspects of our economic life, enough to build on in the "principles" course. Some bits of detailed factual information may, indeed, have to be given them. But such information is, as a rule, most effectively presented along with the study of its fundamental signifi-

cance; surely it does not justify a year-long or a semester-long preliminary course devoted merely to factual details. There is too much else—mathematics, logic, physical science, psychology, etc.—that is of greater value.

V

STUDENTS SHOULD BE ENCOURAGED to question the teacher fully and freely. They should be encouraged to bring up for careful consideration their objections to the reasoning presented by the teacher and the textbook. Such objections should be considered fairly. No attempt should be made to discredit any objecting student (unless he be deliberately discourteous) or to raise a laugh at his expense. The student should not be asked to accept any statement of principle, any chain of reasoning, as right, on the authority of the teacher, however able the teacher may be, or on the authority of the textbook, however competent the teacher may believe the author to be. If the teacher cannot make clear to sincere and conscientious students (who are not hopelessly allergic to learning) that the economic forces in operation are such as to make inevitable—or, at any rate, most probable—the conclusions at which he has arrived, then there must be something wrong with the conclusions or with the teacher's own understanding or skill in exposition.

The student should be made to see the relation of his study to welfare. This should not be a difficult goal and, in fact, reference to the significance of the laws or principles studied, for the determination of welfare policy, is bound to add to the interest of the subject. But such emphasis does not mean—it must not be allowed to mean—subjectively warped analysis. Instead, every effort must be made to train him in objective thinking on cause and effect relationships. Indeed, only as he gains an understanding of these relationships can he have confidence that he will ever know through what economic policies the general welfare can be furthered.

Nor is there any intention to suggest that the teacher should become a preacher or exhorter, even for so good an end as the general welfare. If the home, the playground, the school, the church, etc., have not given to the student any spark of altruism or any spirit of idealism, it is not likely that a college course in economics will do so. The task of the teacher in any science is supposed to be primarily to train the mind, not to develop idealism or sympathy. But some part of the analysis presented should be—and often is—directed to showing that exploitation or parasitism has other forms that are less obvious than burglary, highway robbery, bank robbery and forgery, and that the more subtle forms of parasitism are nevertheless of the same genus as the more obvious ones. From such a showing, though the teacher do no exhorting, there may issue, as a by-product, a strengthening of social sympathy and idealism and, if there be already a conscience, an informed and sensitive social conscience.

One of the most important illustrations of parasitism—perhaps, in our society, the most important—is to be found in the private enjoyment of the rent (including royalties) of natural resources and sites. Yet because of long habituation and, too, the common and unanalytical use of the term “real estate” to include both land *and* constructed capital such as buildings, the beginning student of economics ordinarily, has not even thought of such rent as involving parasitism or as essentially different from any other property income. He will need to have the different types of income explained. If this is not done—and thoroughly done—in his course in economics, he will be, however fully inconsequential topics are treated, only superficially educated in the most fundamental economic problem of all, *viz.*, that of the relation of men to the earth on which and from which they must live.

How shall the essential facts be brought home to him? In my opinion he should have called to his attention early in the course the general idea of exploitative or parasitical income, with due reference to burglary, highway robbery, forgery, etc., as means of getting something for nothing. Such relatively "respectable" incomes as the excess gains of monopoly should be compared with these others. So, likewise, should be compared the gains realized by such methods of competition as are prohibited by the Clayton Act and the "cease and desist" orders of the Federal Trade Commission. Also, it may be well to refer to the limited number of frequencies for broadcasting and the consequent high value which can inhere in an *exclusive privilege* of using one or more of these frequencies. The question may be advantageously raised whether an income so received does not resemble the income a person might derive from the exclusive privilege (which he might rent to others) of using Lake Michigan or New York Harbor, or the exclusive privilege (again, rentable to others) of enjoying the sunshine.

Preferably, I think, at a later point, after capital has been studied, its dependence on saving pointed out and its serviceability or productivity made clear, the student should have called to his attention the important distinction between capital and land. He ought certainly to arrive at a realization that the individual landowner did not and does not bring his land into existence by saving and that it was not through saving by such owner that his land gained its location advantages and rental value. In any analysis that is at all adequate land rent becomes assimilated, in large degree, to income from monopoly, from the exclusive privilege of using a radio frequency or a river, lake or harbor and, indeed, from the ownership of slaves.

Superficial analysis will not suffice. The effects of monopoly, slavery and private income from the rent of land must

be understood in their social aspects. A particular owner or part owner of a monopoly may have *bought* this monopoly from a previous owner at a high price (because of the anticipated high income) and may, therefore, receive thereafter *only an ordinary per cent return on the price he paid* for this ownership. But the student should be made to *face the fact* that the excess price charged by the new monopolist for goods or services produced by the business, over a price which would yield a normal competitive return on a reasonable *cost of construction* of the plant, is none the less parasitism. It is as if a particular tapeworm in a human host's stomach had gained his place by *purchasing it from a previous occupant*. Would the human host consider that he "ought" for such a reason to remain a host forever!

A similar analysis and questioning of the ultimate relations involved should be made with regard to income from slave owning *and* income derived from charging others for *permission* to work on and live on the earth in those locations where work is reasonably productive and life reasonably pleasant. Is it the moral duty of the slave to continue to be a slave if and because his master has *purchased* him for a good price and is, therefore, making only a "reasonable" or *ordinary* per cent on his investment? Is it the moral duty of the landless *never* to protest the land rent system in *any way* or to urge *any change* in the comparative tax rates on land rent income and other income—even a change so *gradual* that it would require a *hundred years* to complete it!

Whatever may be said as to an appropriate remedy, I believe it can be fairly insisted that a study of economics which claims any semblance of completeness—which claims to deal at all adequately with the principles and significant phenomena of the subject—but which does not bring the student *face to face* with the problem of parasitism, *including in parasitism the institutional land rent system to which he is habituated*, is pretense and sham.

In this connection it is worth while contrasting the problem of the economist who seeks to promote desirable economic policy, with that of the physician who seeks to apply a new drug or technique in healing. To get his drug or technique used, the physician has to persuade, at the start, but a single patient. It is then—unless something goes very wrong—not too difficult to try the method on others. Indeed, with a few fairly obvious successes, its use may spread rapidly. But the economist eager to promote economic reform cannot even get his proposals tried at all in any democratic community or country without the support—at any rate the tacit consent—of a majority. Until it is tried, many will argue against it as “untried” and “pure theory.” Yet until these objections are somehow overruled, it cannot be tried!

The idealistic economist, nevertheless, must not succumb to defeatism. He must believe—certainly he may at least hope—that even majorities can be sometimes persuaded, at any rate in some communities which may then become exemplars of other communities. He must believe that his science contains the words—at any rate *some* of the essential words—of social salvation. Only so can his work continue to be inspired by the zest of anticipated usefulness.

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