The Successes and Failures of Professor Smith

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The criterion employed to judge successes and failures has been the acceptance or nonacceptance of Smith's theory by his immediate successors. This judgment has been supplemented with a more personal one of scientific fruitfulness. He had one overwhelming and proper success—the theorem on resource allocation under competition—and several minor successes. He also had one modest success that was improper (i.e., unfortunate)—the distinction between productive and unproductive labor. Smith's most important analytical failure was the hierarchy of employments of capital. Three failures that should have been successes receive special attention: his wage theory, his rent theory, and the analysis of the division of labor. The reasons for the differing fates of these theories are examined.

The Wealth of Nations first appeared on March 9 of 1776, and perhaps sufficient time has now passed to permit a fair estimate of Professor Smith's triumphs and failures. It is a subject in which Smith himself would have displayed a vivid and natural interest. John Rae recounts his final days:

> When Smith felt his end to be approaching he evinced great anxiety to have all his papers destroyed except the few which he judged to be in a sufficiently finished state to deserve publication, and being apparently too feeble to undertake the task himself, he repeatedly begged his friends Black and Hutton to destroy them for him. . . . Black and Hutton always put off complying with Smith's entreaties in the hope of his recovering his health or perhaps changing his mind; but at length, a week before his death, he expressly sent for them, and asked them then and there to burn sixteen volumes of manuscript to which he directed them. This they did without knowing or asking what they contained. [1895, p. 434]

[*Journal of Political Economy*, 1976, vol. 84, no. 6]

Only a man acutely sensitive to the opinion which posterity would hold of him would insist upon such an act. Of course Smith was wrong: there is no amount of mischief and nonsense in 16 volumes which we would not have forgiven, especially since we know he was given to neither mischief nor nonsense.

If the time is ripe, I am less certain of the qualifications of the writer. There is a game I sometimes play with children; I call it "Three Questions." If all three questions are answered correctly I promise $1 million; no doubt the Securities and Exchange Commission will eventually prohibit the game, or the Federal Reserve System will make it viable. The first two questions present no difficulty: perhaps the number of brothers and sisters the child has, and the city in which it lives. The third question is a different matter. Once I asked, "Who was Adam Smith's best friend?" The reply from this child was, "You are, Uncle George." I had someone like David Hume or James Hutton or Joseph Black in mind. Still, I have long been a good friend of Smith, though I have no right to claim priority in his circle. I do not believe that my friendship will distort the judgments I shall propose.

The task I set, in any event, is not the uninteresting one of praising or blaming Smith. The triumphs of any scholar are those of his doctrines which he persuades his contemporaries and successors to heed carefully. When Ricardo or John Stuart Mill or Torrens adopted a theory of Smith's that does not necessarily mean that they accepted it without qualifications but that their work and thoughts were directed by the formulation of Smith. Smith's failures were, correspondingly, those theories which his successors either ignored or rejected out of hand. When Smith was wrong we would naturally expect able successors to ferret out the error, but we shall also discover that some of Smith's finest theories suffered the fate of neglect. In any event, it is the judgment of the science that is decisive in judging a scholar's achievements.

There is, I hope, an intrinsic interest in Smith's triumphs and failures simply because he was as great an economist as has ever lived. There is also a broader significance to my query: can we determine the characteristics of theories that help or hurt their reception?[1]

I. The Proper Successes

A success or triumph is a proposition in economics that becomes a part of the working system (the so-called paradigm) of contemporary and subsequent economists. They accept and *use* the proposition, with heavy emphasis upon the word "use," or they reject and *dispute* the proposition, with heavy emphasis upon "dispute." In either event, their work is

[1] I tried to answer this question in Stigler 1965 (pp. 66–155). The present approach is essentially independent although the answers overlap.

influenced by the successful proposition and, indeed, measures the success. So I repeat: a theoretical analysis is a success if it becomes a part of the living economics of successors, and the success is ascribable to Smith if his formulation governs the later use of the theory, whether he invented it or not. Hence I shall not attempt to determine Smith's debts to his predecessors; suffice to say they were large, but much smaller than our debts to him. One can say of Smith what Newton said of himself: "If I have seen farther, it is by standing on the shoulders of giants." That is appropriate to comparisons with predecessors but not to comparisons with contemporaries: they had the same shoulders to stand on.

Smith had one overwhelmingly important triumph: he put into the center of economics the systematic analysis of the behavior of individuals pursuing their self-interest under conditions of competition. This theory was the crown jewel of *The Wealth of Nations*, and it became, and remains to this day, the foundation of the theory of the allocation of resources. The proposition that resources seek their most profitable uses, so that in equilibrium the rates of return to a resource in various uses will be equal, is still the most important substantive proposition in all of economics.

I do not know whether to list as a second triumph one enormously successful application of this theory of competitive prices, namely, Smith's theory of the differentials in wage rates and profit rates among occupations. The famous list of cost factors which would generate apparent but not real differences in rates of wages and profits—training, hardships, unemployment, and trust—were accepted, and in fact usually quoted verbatim, by Smith's successors for a century.[2] This literature is the direct ancestor of Marshall's famous chapters on wages (1961, bk. 6, chaps. 3–5), and of the modern theory of human capital. So perhaps this special application of price theory deserves to be listed as his second success.

The third and final major success of Smith was his attack on mercantilism. I measure a success by the impact of a scholar on other scholars, not his impact upon public thinking or public policy. Smith's attack on protectionism in all its basic forms—tariffs, subsidies, compulsory use of domestic shippers, limitations on colonial enterprise, and the like—rested squarely on his theory of competitive prices. The crucial argument for unfettered individual choice in public policy was the efficiency property of competition: the manufacturer or farmer or laborer or shipper who was seeking to maximize his own income would in the very process be putting resources where they were most productive to the nation: "Every individual is continually exerting himself to find out the most advantageous employment for whatever capital he can command. It is his own

[2] The role of trust was not analysed satisfactorily by Smith and its acceptance was much less complete (for a modern interpretation of it, see Becker and Stigler [1974]). Smith's fifth source of differences, the uncertainty of success, was not a cost-based differential, and it was much disputed rather than generally accepted.

advantage, indeed, and not that of the society which he has in view. But the study of his own advantage naturally, or rather necessarily leads him to prefer that employment which is most advantageous to the society" (Smith 1976, 1:454). This application of price theory was again a corollary of the main proposition, but its development was so extensive and its success so great that it clearly deserves to be called Smith's third major triumph.

I have been most parsimonious in quoting Smith, and it is well to present a sample of the power of his argument. Here is how he describes one section of the English policy of mercantilism:

> To found a great empire for the sole purpose of raising up a people of customers, may at first sight appear a project fit only for a nation of shopkeepers. It is, however, a project altogether unfit for a nation of shopkeepers; but extremely fit for a nation whose government is influenced by shopkeepers. Such statesmen, and such statesmen only, are capable of fancying that they will find some advantage in employing the blood and treasure of their fellow-citizens, to found and maintain such an empire. Say to a shopkeeper, Buy me a good estate, and I shall always buy my clothes at your shop, even though I should pay somewhat dearer than what I can have them for at other shops; and you will not find him very forward to embrace your proposal. But should any other person buy you such an estate, the shopkeeper would be much obliged to your benefactor if he would enjoin you to buy all your clothes at his shop. England purchased for some of her subjects, who found themselves uneasy at home, a great estate in a distant country. The price, indeed, was very small, and instead of thirty years purchase, the ordinary price of land in the present times, it amounted to little more than the expence of the different equipments which made the first discovery, reconnoitred the coast, and took a fictitious possession of the country. The land was good and of great extent, and the cultivators having plenty of good ground to work upon, and being for some time at liberty to sell their produce where they pleased, became in the course of little more than thirty or forty years (between 1620 and 1660) so numerous and thriving a people, that the shopkeepers and other traders of England wished to secure to themselves the monopoly of their custom. Without pretending, therefore, that they had paid any part, either of the original purchase-money, or of the subsequent expence of improvement, they petitioned the parliament that the cultivators of America might for the future be confined to their shop; first, for buying all the goods which they wanted from

> Europe; and, secondly, for selling all such parts of their own produce as those traders might find it convenient to buy. [For they did not find it convenient to buy every part of it. Some parts of it imported into England might have interfered with some of the trades which they themselves carried on at home. Those particular parts of it, therefore, they were willing that the colonists should sell where they could; the farther off the better; and upon that account proposed that their market should be confined to the countries south of Cape Finisterre.] A clause in the famous act of navigation established this truly shopkeeper proposal into a law. [1976, 2:613–14]

From 1776 to today, the effect of this powerful attack, reinforced by the theoretical advances of Ricardo, Mill, and others, established a tradition of free international trade which even the most confirmed of economist-interventionists seldom feel equal to attacking frontally.

There is a fourth considerable success to be credited to Smith: the formulation of the wages-fund theory. This theory explained the short-run level of average wages by the ratio of funds for the payment of labor (the wages fund) to the number of laborers employed. It was saved from being a tautology by the implicit condition that over moderate periods of time the wages fund was approximately constant in size. Putting aside the question whether it was a useful theory (I have argued that it was [Stigler 1968]), there is no doubt that it dominated the next 100 years of English economics. The uncertainty is how clearly Smith formulated the theory. He definitely asserted the essence of the theory, as when he says: "The demand of those who live on wages, it is evident, cannot increase but in proportion to the increase of the funds which are destined for the payment of wages. These funds are of two kinds; first, the revenue which is over and above what is necessary for the maintenance; and, secondly, the stock which is over and above what is necessary for the employment of their masters" (1976, 1:86; also 1:110, 453). Smith's theory of wages will be shown below to rest on a wages-fund mechanism. The only real misgiving is that Smith did not explicitly define the contents of the wages fund.[3]

I am painting with a wide brush: insights and arguments of lesser scope, which would be a source of fierce pride to lesser economists, do not deserve inclusion here. The famous paradox of value concerning diamonds and water, for example, which posed in inescapable form the central problem

[3] This is Taussig's main reservation in the standard history of the wages fund (1899, pp. 150–51). But the fund is not so easily defined as Smith's successors and Taussig believed—it was not simply, or all of, "the consumable goods, in dealers' hands, ready for purchase by laborers" (ibid., p. 148). The period of advance of the wages determines how "ready" the goods need be, as just one complication.

for the marginal utility theory, would deserve attention in any lesser-man's work. But the first three of these four successes I distinguish have become a permanent part of economics.

II. The Improper Successes

An improper success is an error or an infertile and undevelopable subject or method of analysis—but one that is influential with contemporaries or successors. Most demonstrable errors, one hopes and believes, are soon ferreted out, but the analysis that somehow fails to identify and organize and exploit a useful body of knowledge can only be discovered with time.

I would propose only one significant topic in Smith's work that meets this description: his theory of productive and unproductive labor:

> There is one sort of labour which adds to the value of the subject upon which it is bestowed: There is another which has no such effect. The former, as it produces a value, may be called productive; the latter, unproductive labour. . . . [The] labour of the manufacturer fixes and realizes itself in some particular subject or vendible commodity, which lasts for some time at least after that labour is past. It is, as it were, a certain quantity of labour stocked and stored up to be employed, if necessary, upon some other occasion. . . . The labour of the menial servant, on the contrary, does not fix or realize itself in any particular subject or vendible commodity. His services generally perish in the very instant of their performance. . . . [1976, 1:330]

The purpose of the distinction is clear: if we identify productive labor by the characteristic that its product can be accumulated, then capital formation can take place only out of the product of productive labor. The difficulties with the distinction are two. Even if Smith is correct, the extensive employment of productive labor merely *permits* the accumulation of capital, and the actual formation of new capital requires a wholly independent act of saving. Since most tangible products are not accumulated as capital but are currently consumed, there could be the loosest of connections between the share of labor that is productive and the rate of capital growth.

There is a second difficulty: there are investment acts which are not the result of productive labor. Investments in what we now call human capital do not become incorporated in a tangible, saleable commodity as commonly understood. Yet Smith agrees that one portion of the stock of a society consists of the acquired useful abilities of its inhabitants—to which he should have added the discovery of new knowledge: "The acquisition of [useful] talents, by the maintenance of the acquirer during his education, study, or apprenticeship, always costs a real expence, which is a capital fixed and realized, as it were, in his person. These talents, as they make a part of his fortune, so they do likewise of that of the society to which he belongs (1976, 1:282)." Unless we include instruction and training as productive labor—and Smith lists "men of letters of all kinds" as unproductive labor—the existence of productive labor is not even necessary to capital formation.[4]

The concept of productive labor never made a deep impression on Smith's successors. Senior and McCulloch denied the distinction and John Mill refined it almost out of existence.[5] So it was a small improper success.[6]

III. The Proper Failures

Smith's failures to persuade economists were, like his successes, of two sorts: failures that were proper, and failures that should have been successes. We consider first the proper failures. A proper failure contains an analytical error, or it presents an empirically trivial or mistaken view of the world.

The most conspicuous of Smith's proper failures was the hierarchy of employments of capital, presented in book 2, chapter 5, "Of the Different Employments of Capital": "A capital may be employed in four different ways: either, first, in procuring the rude produce annually required for the use and consumption of society; or secondly, in manufacturing and preparing that rude produce for immediate use and consumption; or, thirdly, in transporting either the rude or manufactured produce from the places where they abound to those where they are wanted; or lastly, in dividing particular portions of either into such small parcels as suit the occasional demands of those who want them" (1976, 1:361). Although all four activities are essential to one another or to "the general convenience of the society," capital is more productive—that is, sets more labor to work and augments more the annual produce of the society—if

[4] William Playfair pointed out, in his edition of the *Wealth of Nations*, that even the employment of menial servants might be a productive act: ". . . a cook, for (example) is a menial servant, but in a tavern he enriches his master just as much as any other journeyman; and on the other hand, a servant that spins or sews for the use of her master in a private family, is only acting as a menial servant; she is just supplying his wants, and contributing to his comforts in the same manner as when she lights the fire, or washes the apartments, yet she is a productive labourer by this definition" (Playfair 1805, 2:2, n.).

[5] See Mill 1967, pp. 280 ff. A less influential figure, David Buchanan, was a strong supporter of the distinction (Buchanan 1817, pp. 131–36).

[6] Hla Myint would wish to make the concept of productive labor, and of economic growth more generally, central to Smith's work, and a wholly proper success (1943, pp. 20–24). I would assert the contrary: that growth is not the only important path to economic welfare in Smith's system, and the concept of productive labor is not important to growth. But the modesty of the success of Smith's distinction is a matter of historical record.

applied earlier in this sequence of operations than if applied later. The argument is simple: the capital of a retailer employs only himself and possibly a clerk—the remainder of the capital goes to purchase the goods he sells and therefore to replace the capitals of earlier stages. At the other end, "no equal capital puts into motion a greater quantity of productive labour than that of the farmer" (ibid., p. 363), for all of his capital goes to support labor, and in addition the fertility of nature is enlisted.

That Smith was in error is unequivocal. He allowed a system of financing to conceal the facts of economic life. If the consumer, instead of paying the retailer for the corn, had paid the farmer for raising it, the millwright for grinding it, the ship's captain for transporting it, and the retailer for stocking it, then everyone's capital would have gone exclusively to the direct support of production, but nothing essential would have changed.

If Smith had really incorporated this error into his theoretical system, the effects would have been disastrous. As one important example, the argument for private control over investment would have been damaged beyond repair. But it remained a local blemish (repeated however once, in Smith 1976, 2:573), duly refuted by McCulloch and ignored by Senior and J. S. Mill (McCulloch 1825, pp. 143 ff.). Only Malthus gave it warm approval (1820, pp. 30 ff.).

This error is commonly, and no doubt correctly, attributed to the influence of the Physiocrats: there is no such thing as a free trip to Paris. But this is a history of the error, not an explanation for Smith's commission of it. (Does the explanation lie in his antiluxury viewpoint?—reference will be made below to this attitude.)

A related error, and one to which Smith attached greater importance if measured by the number of times it recurs in the *Wealth of Nations*, is the assignment of a hierarchy of social usefulness to domestic trade, foreign trade, and the carrying trade for foreign nations (1976, 1:368 ff., 454, 495–96; 2:600–604, 610–11, 628–30). The internal trade, he argues, by the act of buying Scottish manufactures, carrying them to London, selling them and buying English corn to return to Edinburgh, replaces two British capitals, whereas the foreign trade replaces only one British capital and the carrying trade none. In addition, the returns of local trade are quicker than in distant trade. At this level of discourse, Smith is surely mistaken. If these various trades are yielding equal annual rates of return on capital, a shift from foreign to domestic trade would reduce aggregate national output (although the export of capital can of course affect wages). This error received no greater approval from Smith's successors (thus, Ricardo 1951, pp. 350–51).

A very different error, and possibly not an error at all, is Smith's measure of value—which came from the same source as that which may have led him to overvalue agriculture. Smith was acutely sensitive to the instability of monetary measures of value, and an appreciable fraction of the *Wealth of Nations* is devoted to the chronicle of currency debasement and inflation. He proposes as the ultimate measure of value the disutility of 1 hour of ordinary labor:

> Equal quantities of labour, at all times and places, may be said to be of equal value to the labourer. In his ordinary state of health, strength, and spirits; in the ordinary degree of his skill and dexterity, he must always lay down the same portion of his ease, his liberty, and his happiness. The price which he pays must always be the same, whatever may be the quantity of goods which he receives in return for it. . . . Labour alone, therefore, never varying in its own value, is alone the ultimate and real standard by which the value of all commodities can at all times and places be estimated and compared. [1976, 1:50–51]

Smith's error, if indeed it is an error, is to assume that the psychological cost of performing 1 hour of labor is more stable, in its significance to a person, than the psychological pleasure from the consumption of some bundle of goods. The instability of labor disutility arises from at least three circumstances: (*a*) It varies with the conditions of technology—for example, the lifting of heavy weights has been almost eliminated in a modern society. (*b*) It varies with the degree of training of the worker: the disutility of acquiring labor skills must be added to that of performing the work, and this addition was already increasing secularly with the progressive division of labor. (*c*) It varies with the hours of labor, and hence with income. The corresponding view of a bundle of consumer goods yielding constant satisfaction as the unit of value is free of the second difficulty, possibly free of the first (depending how one views new commodities), but of course not free of the third.

Smith's rejection of consumption in fixing on a measure of value is attributable to his belief that luxuries are frivolous and yield illusory pleasures that vanish in the act of realization. This view is extensively argued in his *Theory of Moral Sentiments* (1797, pt. 4, chap. 1) and receives adequate expression in the *Wealth of Nations*.[7] That Smith should attribute to almost all economic actors an illusion that greater wealth yields greater satisfactions, an illusion that is perhaps never pierced, is one of his greatest idiosyncrasies.

Smith's third error, and again perhaps we should label it a misdirection, is his monetary theory, as presented in volume 1, book 2, chapter 2, "On Money." Smith believes that there is a fixed demand for money in a

[7] "For a pair of diamond buckles perhaps, or for something as frivolous and useless, [the feudal lords] exchanged the maintenance, or what is the same thing, the price of the maintenance of a thousand men for a year, and with it the whole weight and authority which it could give them" (Smith 1976, 1:418–19.)

society, in the special sense that only a certain quantity of money will circulate and excessive sums will be exported (if the money is gold or silver) or be presented for redemption in gold (if the money is bank notes). The theory is tenable as a first approximation if, as Smith assumes, the foreign exchanges are fixed and the paper currency is fully convertible: the theory then is implicitly a simple purchasing power parity theory.[8]

The complaint at Smith's theory is not that it is formally erroneous but that it represents a retrogression from the generality and predictive power of the monetary theory in Hume's essays.

IV. The Improper Failures

There remain the successes that Smith should have achieved, but did not. It will appear paradoxical that his immense prestige and vast powers of persuasion should have failed to obtain acceptance of ideas that were correct, profound, and fecund.

The first of these superior theories was a rejection of the subsistence theory of wages. Smith, it will be recalled, gave four explicit reasons for believing wages were not generally at a subsistence level in Great Britain: (1) Summer wages exceed winter wages, but the cost of subsistence varies inversely. (2) Subsistence varies substantially in cost from year to year, but some wages change very slowly. (3) Subsistence varies substantially from place to place, but wages vary less by place. (4) Variations over time and place in the cost of subsistence are often inverse to those of wages (1976, 1:91–93). All of these proofs, particularly the first two, suffer from a concentration on short-run correspondences of wages and the cost of subsistence, but they carry considerable weight. In addition Smith offers the powerful long-run example of the differences in real wages between England and the American colonies (ibid., pp. 87–88), an example whose persistence made it stronger with each passing year.

Smith proposed an alternative theory, and one which was surely more valid than the subsistence theory as a predictor of wage rates. He proposed that "the" wage rate of (say) unskilled labor was given by wage rate = subsistence level + $\lambda(\Delta\ [\text{capital}]/\Delta\ [\text{time}])$, $(\lambda > 0)$, that is, that population lagged changes in capital, so ". . . it is in the progressive state, while the society is advancing to the further acquisition, rather than when it has acquired its full complement of riches, that the condition of the labouring poor, of the great body of the people, seems to be the happiest and the most comfortable. It is hard in the stationary, and miserable in the declining state" (ibid., p. 99). This wage theory, despite its great plausibility, was easily vanquished for a generation by Malthus's simple theory (which set $\lambda = 0$).

[8] Smith assumes the full convertibility of paper money (ibid., p. 329).

A second of Smith's theories took slightly more than a century to achieve currency—it was his theory of rent. He consistently treated the rent of land as it should be treated: any one use of land had to pay a rent, which was a cost of production, to draw the land away from other uses; whereas for all uses combined, rent was a residual. This theory is present in volume 1, book 1, chapter 11, "The Rent of Land," with hardly any ambiguity but with hardly any explicitness. Indeed, I used to suspect my own reading of it until I discovered an early and wholly concordant treatment by D. H. Buchanan (1929). It is difficult in retrospect to see how the many recognitions of the alternative cost theory received so little attention, as when Smith says, "As an acre of land, therefore, will produce a much smaller quantity of the one species of food [meat] than of the other [corn], the inferiority of the quantity must be compensated by the superiority of the price. If it is more than compensated, more corn land would be turned into pasture; and if it was not compensated, part of what was in pasture would be brought back into corn" (1976, 1:165, 168, 175, etc.). John Stuart Mill gave this theory timid recognition, and Marshall refused to give it full credit. But unlike the other theories of Smith under discussion, the correct theory here is only partly explicit and was fragmented in presentation, so he rather than his successors deserve the larger blame for its neglect.

The last of Smith's regrettable failures is one for which he is overwhelmingly famous—the division of labor. How can it be that the famous opening chapters of his book, and the pin factory he gave immortality, can be considered a failure? Are they not cited as often as any passages in all economics? Indeed, over the generations they are.[9]

The failure is different: almost no one used or now uses the theory of division of labor, for the excellent reason that there is scarcely such a theory. The description of division of labor was much enlarged in Babbage's account of manufactures, and the phenomenon lies at the base of that part of Marshall's theory of external economies which attends to localization of industry. There are more praises and even mild use of Smith's theorem that the division of labor is limited by the extent of the market in essays by Allyn Young and myself, and Ronald Coase's work on the firm is clearly in the line of descent (Young 1928; Coase 1937; Stigler 1951). But there is no standard, operable theory to describe what Smith argued to be the mainspring of economic progress.

Smith gave the division of labor an immensely convincing presentation —it seems to me as persuasive a case for the power of specialization today as it appeared to Smith. Yet there is no evidence, so far as I know, of any serious advance in the theory of the subject since his time, and specializa-

[9] Babbage reports the dramatic story of how M. Prony was enabled, by reading Smith on this subject, to plan the great mathematical tables of the French revolutionary government (1842, pp. 191–95).

tion is not an integral part of the modern theory of production, which may well be an explanation for the fact that the modern theory of economies of scale is little more than a set of alternative possibilities.

V. The Recognition of Success and Failure

It is a general rule of scientific work that a scholar's successes and failures are judged by his contemporaries, and their judgment is accepted by later scholars. Allowing for the fact that Smith wrote when there were few even part-time economists, so we may perhaps treat the early nineteenth century as near contemporary, his experience confirms this rule. Certainly all of Smith's successes, proper and improper, were achieved within 50 years of their initial publication. All of his failures, proper and improper, were similarly achieved in this period. It is almost (but not quite) tautological that proper successes and proper failures be promptly recognized at such, but it is not inevitable that an improper success (recall that Smith's on productive and unproductive labor was a modest success) will soon be dispatched.

As for improper failures, the interesting point is that they do not influence the later adoption of the neglected contribution. When the theory of rent was finally set straight—a development which took place primarily in the period from 1890 to 1910—the correct formulation owed nothing to Smith's profound but inarticulate insight. When the Malthusian wage theory was abandoned, as it was on an ever-widening scale from 1825 on, it was not Smith's highly plausible theory of population lags that was adopted. In fact, for a long time no alternative theory was adopted, and population receded from economic attention. It is perhaps rash to complete the trilogy, for these are three scientific tragedies, by asserting that when a theory of specialization comes it will owe little to Smith; but on historical grounds it is even rasher to assert the converse.

There are, of course, exceptions to the rule that much later scientific descendants accept the judgment of a man's contemporaries: perhaps Cantillon, Von Thünen, Cournot, and Gossen are the leading exceptions in the history of economics. These exceptions were for Schumpeter the source of considerable lament at the closed minds and narrow visions of contemporaries (Schumpeter 1954, pp. 463 ff., and elsewhere), but it seems unfruitful to expect of a science that it immediately value all scientific work at its ultimate worth, never erring in deficit or in excess.

The rule of the dominance of contemporary judgments, however, rests upon another basis: science is a *social* pursuit of knowledge, not a census of independent individuals. A scholar who does not influence his contemporaries—who does not persuade them to work differently—is not an effective member of that science. Occasionally he may indeed have been too farsighted—inventing disk brakes before the internal combustion machine was known—but this is so rare a cause of failure that there cannot be many less efficient ways to discover good unexploited ideas than by reading earlier literature. The overwhelming cause of failure of scholars is that their ideas were erroneous or infertile or their development too primitive to provide useful guidance to their contemporaries. That is the proper reason for a judgment of failure in a social enterprise, and later scholars are quite sensible in accepting the verdict in perpetuity.

VI. The Sources of Success and Failure

In the long run nothing is more essential to a theory than that it be right, but we cannot even pause for a new sentence before remarking that rightness means limited wrongness. The theory must help in explaining to the world that economics is attempting to understand, and a partial explanation is better than none.

Logical error is sometimes enough to disqualify a theory—that is why Smith's four-layered hierarchy of employments of capital never had a prospect of scientific prosperity. Usually, however, it is possible to retain the substance of a theory in a logical reformulation. Perhaps that is the reason that logical criticisms of Smith's hierarchical theory were not common—economists like Ricardo simply ignored this theory, and it is difficult to doubt that their aversion was at least partly due to a belief that the whole approach was infertile and contrived.

Blemishes, however, will exist in every theory: the logic may be reasonably rigorous—although standards of rigor are not unchanging—but the very formulation of a problem will, in time, prove to be obtuse.

The acceptability of Smith's theories, logic aside, was very little influenced by the strength of the *specific* evidence he gave in their support. His strong empirical arguments against a subsistence theory of wages were ignored, whereas his support for the theorem on equalization of rates of return under competition was only casual and anecdotal. To say that a proof is nonspecific and nonquantitative is not to say that it is unweighty: if the theorem was congruent with widely observed phenomena—the growing number of members of prosperous trades, the fall of prices of new goods over time—then one was prepared to follow the theorem into unobserved places. A century later, however, when Cliffe-Leslie denied the tendency of rates of return to approach equality, there was precious little documented evidence to refute him.

But the proof of the ubiquity of the division of labor certainly also met this test of congruence with common observation: in fact, irresistibly so. Ask a modern economist to name an instance of *non*specialization of labor and he will be lucky to remember Robinson Crusoe. Yet, as we saw, there has been scarcely any systematic or regular use of this concept in economic analysis.

We have already hinted at the difference between the fates of the theorems on division of labor and on rates of return. The latter was a generalization of enormous power and could be used immediately on the most obtrusive and important questions: why some occupations earned more than others; why mercantilism and similar state interventions, as well as private monopoly, led to misallocations of resources; and who would bear various taxes. The theory of division of labor is not devoid of consequences—that it is limited by the extent of the market makes it relevant to protectionism, for example—but the uses were few and far between.

So Smith was successful where he deserved to be successful—above all in providing a theorem of almost unlimited power on the behavior of man. His construct of the self-interest-seeking individual in a competitive environment is Newtonian in its universality. That we are today busily extending this construct into areas of economic and social behavior to which Smith himself gave only unsystematic study is tribute to both the grandeur and the durability of his achievement.

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