HOW NEW IS THE "NEW TRADE THEORY" OF THE PAST TWO DECADES?

by

Andrea Maneschi



Working Paper No. 00-W27

July 2000

DEPARTMENT OF ECONOMICS VANDERBILT UNIVERSITY NASHVILLE, TN 37235

www.vanderbilt.edu/econ

How new is the Anew trade theory@of the past two decades?

Andrea Maneschi, Vanderbilt University

This paper takes up the theme of this conference, whether there is progress in economics, by examining a paradigm known as the Anew trade theory[®] that has been used by international trade theorists over the past two decades. Authors contributing to it include James Brander, Avinash Dixit, Wilfred Ethier, Gene Grossman, Elhanan Helpman, Paul Krugman, Kelvin Lancaster and Barbara Spencer. Mainstream trade theory based on the HeckscherBOhlin model posits assumptions such as constant returns to scale and the associated market structure of perfect competition, which the new trade theorists reject in favor of increasing returns to scale and imperfectly competitive or oligopolistic market structures. They claim that their models mirror more accurately the markets in which most industrial commodities are exchanged, and explain phenomena such as intraindustry trade that the HeckscherBOhlin theory could not account for.

Section 1 explores in greater depth the reasons for the birth of this new paradigm some two decades ago. Compared to its mainstream alternative, the new trade theory offers fresh insights into the nature of the gains from trade, and new rationales for trade that often dispense altogether with the notion of comparative advantage. Section 2 examines its antecedents in the history of economic thought which hark back to Adam Smith. Of special relevance are Smith=s productivity theory of trade, according to which productivity rises with specialization induced by the expansion of the market, and the infant industry argument for protection popularized by J. S. Mill. The extent to which Aprogress@ was achieved by the new trade theorists with respect to the mainstream theory of trade is assessed in section 3. Insofar as the new theory was inspired by its antecedents in the history of economic thought, section 4 measures its progress with respect to its classical antecedents, and to Bertil Ohlin=s advocacy of economies of scale as a rationale for trade that complements that based on factor endowment differentials. Section 5 assesses whether the theoretical advances which mark the new trade theory constitute a net advance over the classical and neoclassical theories that preceded it.

1. The birth of the new trade theory

The new trade theory arose from dissatisfaction with the mainstream HeckscherBOhlinB Samuelson (HBOBS) trade theory, which gathered strength after the Leontief paradox raised the first doubts concerning its validity. At the end of World War Two when the United States was considered the world=s most capital-abundant country, Leontief (1953) discovered that instead it exported labor-intensive and imported capital-intensive commodities. His findings produced a flurry of articles designed to justify them or to reformulate the underlying HBOBS theory. The further tests that followed extended this theory to a greater number of factors than the two (capital and labor) considered by Leontief, used later data or were applied to countries other than the U.S. In the case of the U.S., the Leontief paradox was sometimes reversed (especially with more recent data), at other times reaffirmed.

The doubts cast on the validity of mainstream trade theory that were sown by the Leontief paradox were reinforced by mounting evidence that a considerable proportion of world trade was occurring between industrialized countries rather than (as would have been predicted by the HBOBS theory) between more complementary economies such as those of developed and developing countries. The industrialized countries instead had fairly similar factor endowments, and much of the trade between them was of an intraindustry nature. This called for a different explanation not based on differential factor endowments nor on the perfectly competitive market structure postulated by the mainstream models. The increasing importance of multinational corporations as important global trading entities pointed in the same direction.

The new trade theory was preceded by earlier contributions that escaped from the

straitjacket of the HeckscherBOhlin theory in order to explain particular types of trade. Posner (1961), Vernon (1966) and Hufbauer (1966) deserve special mention as marking the first departures from the HeckscherBOhlin assumptions that technology and tastes are identical everywhere. Products were instead assumed to go through a life cycle that begins in the country where they are first invented and manufactured, before being adopted by consumers in foreign countries and eventually imitated by firms in those countries. The assumption that technology differs across countries, at least for a certain length of time conditioned by the expiration of patents and other property rights, and by the degree to which technologies can be successfully imitated abroad, made such models closer in spirit to Ricardo than to HeckscherBOhlin. However, they were somewhat ad hoc in nature, and did not offer an overarching paradigm that could be regarded as a valid alternative to the traditional one.

The first articles of the new trade theory appeared about two decades ago, when Krugman (1979a, 1979b), Lancaster (1980) and Dixit and Norman (1980) presented models of trade in differentiated goods produced under increasing returns to scale. Because of this feature, the assumption of perfect competition had to be jettisoned in favor of imperfect competition. Trade theorists were inspired by, and borrowed from, the theory of industrial organization, as reflected in Spence (1976), Dixit and Stiglitz (1977), and Lancaster (1979). The models of the new trade theory presented economies of scale in industries marked by product differentiation as a rationale for trade that is alternative to, or additional to, comparative advantage based on differential factor endowments.

A subset of articles of the new trade theory borrows from the theory of monopolistic competition and another subset from the theory of oligopoly. Both have historical antecedents, in the work of Edward Chamberlin and Joan Robinson in the former case, and in that of A. A. Cournot and J. Bertrand in the latter. This literature is so rich and varied that it is impossible to evaluate it and set it all in context in this article, which will focus on the new

trade theory models based on increasing returns and monopolistic competition.

2. Antecedents of the new trade theory

Historians of economic thought always look for precedents of theoretical innovations such as the new trade theory. No lesser a figure than the putative founder of classical political economy, Adam Smith, has been invoked as its progenitor. Thus Krugman has argued that

The long dominance of Ricardo over SmithBof comparative advantage over increasing returnsBwas largely due to the belief that the alternative was necessarily a mess. In effect, the theory of international trade followed the perceived line of least mathematical resistance. Once it was clear that papers on noncomparative- advantage trade could be just as tight and clean as papers in the traditional mold, the field was ripe for rapid transformation. (Krugman, 1990, p. 4)

Krugman-s models are in fact based on increasing returns and dynamic phenomena such as learning by doing that suggest the benefits from specialization resulting from the division of labor, a concept made famous in Smith-s *Wealth of Nations*. Even before the birth of the new trade theory, economists began to re-examine Smith-s ideas on the causes and benefits of international trade, ideas that were displaced by David Ricardo-s principle of comparative advantage, illustrating in numerical terms the advantages of trade in wine and cloth between England and Portugal. It was this principle, and not any insight that Smith advanced in the *Wealth of Nations* in favor of free trade, that established the theory of international trade as the oldest subfield of economics. This principle was the mainstay of trade theory for over a century, when it was generalized to many commodities and countries. Its primacy was first challenged by Bertil Ohlin (1933) who, inspired by his teacher Eli Heckscher ([1919] 1949), developed an alternative model of trade based on factor endowments. The question is whether Ricardo as well as HeckscherBOhlin have now been dethroned by the more dynamic trade theory suggested by Smith.

The features of Smith=s trade theory were ably expounded by Myint (1958, 1977), Hollander (1973) and Bloomfield (1975). Myint identified two separate rationales for trade in the *Wealth of Nations*, which he called the Aproductivity@ theory and the Avent-for-surplus@ theory. According to the former, the advantage of foreign trade is that

the narrowness of the home market does not hinder the division of labour in any particular branch of art or manufacture from being carried to the highest perfection. By opening a more extensive market for whatever part of the produce of their labour may exceed the home consumption, it encourages them [that is, the trading countries] to improve its productive powers, and to augment its annual produce to the utmost, and thereby to increase the real revenue and wealth of the society. (Smith, 1976, p. 447)

Smith had devoted a whole chapter of Book One of the *Wealth of Nations* to elaborating the fact that the division of labor is limited by the extent of the market. By expanding the size of the market, foreign trade allows a greater division of labor and its attendant increase in productivity.¹ By lowering the costs of commodities, higher productivity in turn induces a greater volume of trade. Trade thus holds out the prospect of an irreversible feedback process whereby a nation-s productivity, which initially gave rise to trade, is itself modified by the very trade which it stimulates. Several models of the new trade theory are also based on a feedback process of this type, and can thus claim Smith as progenitor.

A second important antecedent of the new trade theory is the infant industry argument for protection, first suggested with reference to the developing American economy by Alexander Hamilton ([1791] 1966), and elaborated in much greater detail by John Rae (1834). Thanks to Rae=s advocacy, it was adopted by John Stuart Mill in his *Principles of Political Economy* ([1848] 1920), whereupon it became an integral part of British classical economic theory. Friedrich List, a better-known advocate of protection for developmental purposes, was also inspired by Hamilton=s arguments in favor of an AAmerican system@ and transformed them into a full-blown rationale for a Anational system of political economy[®] (the title of List [1841] 1885). An important strand of the new trade theory has re-examined the advantages of economic protection, as epitomized in the titles of two of Krugman=s articles (1984, 1987a), AImport Protection as Export Promotion: International Competition in the Presence of Oligopoly and Economies of Scale[®] and AIs Free Trade Passé?[®].² Krugman=s answer to the last question is a complex one that neither supports nor rejects free trade: ANew trade theory suggests that [free trade] is unlikely to be the best of all conceivable rules. It is very difficult to come up with any simple set of rules of the game that would be better, however[®] (1987a, p. 142). The new trade theory has thus added to the infant industry and terms of trade arguments another intellectually respectable argument for protection, though one fraught with troublesome political implications, suggesting that in most cases free trade, like honesty, remains the best policy.

More recent antecedents of the new trade theory include contributions by Graham (1923), Young (1928) and Williams (1929), which expressed unease with the neoclassical theory of trade for its inability to incorporate the pervasive phenomenon of increasing returns. Their contributions, however, did not go beyond presenting a cogent critique of mainstream theory without offering a valid alternative such as that based on the theory of industrial organization (IO) that inspired trade theorists in recent years (Krugman, 1989). It is noteworthy that this IO theory was in turn inspired by a reconsideration of the theory of monopolistic competition that had been proposed several decades earlier by Chamberlin (1933) and Robinson (1933), and then lay dormant before being resurrected and taken up by trade economists.³

3. Progress of the new trade theory with respect to mainstream trade theory

In this section we examine the extent to which the new trade theory can be regarded as marking progress with respect to the mainstream HBOBS theory, and in the next section we evaluate this progress in relation to its historical antecedents. The founders of the new theory did not design it to replace the HBOBS theory as the sole explanation of trade flows. Factor endowments are still recognized as the chief explanation of trade in primary and natural-resource-intensive commodities. The new trade theory is primarily meant to explain trade in manufactures subject to increasing returns. Some of its models combine intraindustry trade in manufactures with interindustry trade based on factor endowments, so that comparative advantage remains a subsidiary but essential explanation of trade flows.

A second reason that the new theory cannot assume the mantle of authority earlier worn by the HBOBS theory is that it consists of a set of heterogeneous models each of which is based on particular assumptions regarding technology, market structure (including the number of firms in the industry), consumer tastes, and other features. There is a corresponding heterogeneity of rationales for trade, types of gains from trade and scopes for public policies, including strategic trade policy. The HBOBS theory is instead Acanonical[@] in that it is based on assumptions that are well-understood and agreed on by its practitioners.

Within its limited purview, the new trade theory can be regarded as marking a clear milestone on the road to a more realistic theory of trade, shorn of the assumptions of perfect competition and constant returns to scale that had become increasingly hard to maintain for world trade in manufactures. Indeed, its success can be regarded as a case study of successful paradigm change, of the type that satisfies conditions laid down by Kuhn (1962) for a scientific revolution (Bensel and Elmslie, 1992). It is a delayed response to the unease felt by many trade economists after the emergence of the Leontief paradox, after which they kept working within the confines of the HBOBS tradition for want of a more satisfactory alternative paradigm.⁴ The new theory could successfully account for other anomalies that the HeckscherBOhlin paradigm was powerless to explain, such as the phenomenon of intraindustry trade, and the fact that most of the increase in world trade in the postwar period occurred among the industrialized countries. Its models were able to explain the fact that

trade tends in fact to be more intense, the more similar countries are in their factor endowments. A key to the success of the new trade theory was the formulation of mathematical models of imperfectly competitive industries marked by economies of scale, where the gains from trade include not only increased consumption of the goods consumed before trade, but a greater variety of commodities available at cheaper prices due to longer production runs in the exporting countries.

4. Progress of the new trade theory with respect to its historical antecedents

While the new trade theory offers incontrovertible advantages vis-a-vis the mainstream HBOBS theory, though circumscribed to the manufacturing sector of the economy, can it likewise be said to mark progress with respect to its historical antecedents? These include Smith=s productivity theory of trade in the *Wealth of Nations*, the infant industry argument for protection, Frank Graham=s advocacy of protection for increasing-returns industries, and Bertil Ohlin=s championing of economies of scale as an important complementary reason for trade.

Smith=s productivity theory of trade contains a profound insight on the nature of the cumulative productivity gains associated with the division of labor, which lead to changes in a country=s comparative advantage. The latter is shaped by the experience acquired through past production, or learning by doing. Instead of being exogenously given, comparative advantage is determined by an evolutionary or feedback process, and thus contrasts not only with Ricardian trade theory where it is based on given technologies in the two trading countries, but with the HeckscherBOhlin theory based on given factor endowments and internationally identical production functions. Smith=s perception that the division of labor is limited by the extent of the market, which includes the world market as well as the domestic one, inspired the construction of models that are lineal descendants of his productivity theory, where history and initial conditions determine an economy=s evolutionary pattern.

A rich and mathematically sophisticated literature has now been produced by the new trade theorists.⁵ It occasionally acknowledges or pays lip service to Adam Smith or later precursors, but in the main proceeds under its own steam to establish its credentials using the modeling methodology that is standard among present-day economists. The degree of mathematical rigor with which assumptions are expressed and deductions reached from them undeniably marks progress with respect to the way in which the precursors of the new theory expressed themselves. It is hard to imagine any other way in which the new theory could have gained adherents among trade economists and established itself as a valid alternative to the HBOBS theory. Some of its models contain new insights into the creation of comparative advantage. An example is Krugman (1987b), whose model features learning curves where cumulative past output determines current productivity, as in Arrow=s (1962) learning-by-doing model. If international spillovers of external economies are partial rather than complete, labor productivity rises faster in the country which first produces a traded good. Moreover,

Like a river that digs its own bed deeper, a pattern of specialization, once established, will induce relative productivity changes that strengthen the forces preserving that pattern. Clearly, history matters here even for the long run.... Comparative advantage is Acreated@over time by the dynamics of learning, rather than arising from underlying national characteristics. (Krugman, 1987b, p. 47)

This model blends insights from Smith and Ricardo. Comparative advantage is endogenous rather than exogenous, and is created by the same forces that lead to productivity increases thanks to an expanded division of labor. The complementarity with which the insights of these two economists are used shows that Ricardo has not been dethroned by Smith as the founder of the theory of international trade. Comparative advantage, suitably reinterpreted, retains a vital role in the new trade theory. However, some of its models feature what Krugman (1990, p. 4) labels Anoncomparative-advantage@trade, since even economies that in

autarky are identical in every respect can find it profitable to trade.⁶

The infant industry argument for protection dates from mercantilist times, and was subsequently articulated by Hamilton, Rae, List, Mill, Marshall and Taussig, among others. Although it has come under attack by some economists (Baldwin, 1969; Irwin, 1996), certain forms of the argument are accepted by the new trade theorists. In fact, much of the new trade theory can be regarded as providing sophisticated arguments for some forms of protection to provide favorable initial conditions, such as subsidies for research and development activities. As Grossman and Helpman argue,

Once the push from policy has enabled an initially lagging country to catch up, the policy can be removed without reversing the process that has been set in motion. This presents a clear case of policy *hysteresis*; a temporary policy can have permanent effects... Evidently government policy can turn a stagnant economy into a growing one, and an importer of high-technology products into an exporter of these goods. (Grossman and Helpman, pp. 207, 231)

While Grossman and Helpman do not label this an infant-industry argument, the models of created comparative advantage that they present can be said to mark Aprogress[@] in relation to the traditional arguments for infant industry protection and have helped to restore its validity among present-day economists.

Ethier (1982) took up the rationale for the protection of increasing-returns industries first formulated by Graham (1923). By means of an elegant two-sector model of an economy consisting of a constant-cost industry and a decreasing-cost one, he was able to shed light on the policy implications for increasing-returns industries that Graham arrived at by means of laborious numerical examples. Ethier showed that protection can indeed be superior to free trade for one of the countries, as claimed by Graham, but only if they are fairly equally sized. However, this is not an infant-industry argument since protection, once instituted, cannot be revoked. Ethier-s paper reveals both his intellectual indebtedness to Graham, and the fact that

it constitutes Aprogress[@] by arriving at results that Graham had been unable to reach.

Another important antecedent of the new trade theory is what Bertil Ohlin described in the title of chapter 3 of *Interregional and International Trade* (1933, 1967) as AAnother Condition of Interregional Trade[®]. He argued there that a powerful secondary reason for trade is economies of scale, due to the indivisibility of certain factors of production and the consequent need to concentrate activities geographically. Moreover, Athis conclusion that interregional trade reduces the disadvantages of indivisibility corresponds to the previous conclusion that trade mitigates the disadvantages of an unequal geographical distribution of productive agents[®] (1967, p. 40). This cause of trade and specialization, and source of gains from trade, is additional to differential factor endowments. Ohlin=s anticipation of the new trade theory is rather remarkable for its details as well as its general thrust. Thanks to economies of scale, even regions with identical factor endowments can gain from trade, and the particular industries in which each region specializes are a matter of chance:

Assume that a number of regions are isolated from each other, and that their factor endowments and their demand are so balanced that the relative prices of factors and commodities are everywhere the same. Under the assumptions of Chapter I, no trade is then possible. As a matter of fact, insofar as the market for some articles within each region is not large enough to permit the most efficient scale of production, division of labor and trade will be profitable. Each region will specialize on some of these articles and exchange them for the rest. *The character of this trade will be entirely a matter of chance if factor equipment is everywhere the same, for it doesn matter whether a certain region specializes in one commodity or another*, just as uniformly endowed individuals can with equal advantage specialize in any kind of work. (Ohlin, 1967, p. 38; emphasis added)

Ohlin thus fully anticipated the Anoncomparative-advantage trade[@] developed by Krugman (1990, p. 4). He even blended the two prime reasons for trade that he identified in his 1933

book. Since some industries subject to economies of scale are labor-intensive, while others are capital-intensive, Athe different growth of these industries in different regions causes a shift in the demand for factors of production and makes their relative scarcity unequal.... This makes further division of labor profitable[@] (Ohlin, 1967, p. 38). Hence trade can result from either differences in endowments or economies of scale.⁷

Ohlin remarked on the importance of history and accident in molding comparative advantage, a factor that has also been stressed by Krugman (1991). Authors such as Grossman and Helpman (1991) refer to this as *hysteresis*, a term employed in the passage quoted above, and use this concept to show (*inter alia*) that research activity can become concentrated in the country that acquires a technological lead in an industry. Ohlin=s view was that

the location of an industry in one region and not in another might simply be due to chance, the industry having gained strength in that particular region and having reached an efficient scale. Since it cannot profitably be carried on in every region because the total demand is too small, it tends to remain where it was first located.... *If the actual location of production is not that which the available factors would seem to indicate, the usual explanation is that this location was natural in earlier times, and when certain industries have once been established in a place, there is a tendency for them to remain there. Friction of various kinds here is responsible. (Ohlin, 1967, p. 39; emphasis added)*

Though he qualified his statement by observing that its effects can continue for only a limited length of time, Ohlin offered several examples of cases where Afriction[@] (the present-day hysteresis) dominates the location of industry.

Some models of the new trade theory have used mathematical analysis and the new findings of the theory of industrial organization to express Ohlin-s insights with precision and elegance. While they thereby display a measure of technical sophistication with respect to

what preceded them, one cannot but be struck by the degree to which Ohlin was able to anticipate many of their results on the basis of intuition alone.

5. Does the new trade theory constitute progress?

The new paradigm and its antecedents raise intriguing questions about the nature of Aprogress[®] in economics, and of paradigm shifts that allow a return to previously abandoned paradigms such as trade due to increasing returns. The Aendogenous[®] comparative advantage associated with the new trade theory can be contrasted to the exogenous one found in models of the Ricardian or HeckscherBOhlin type. Its endogeneity can be traced to the insights that Adam Smith presented to the world 224 years ago. Is Aprogress[®] then nothing but the reappearance in new dress of essentially old ideas? Are we tasting new wine in rather old bottles? And is it really different from the old wine they contained before?

Historians of economic thought have answered such questions many times before. In comparing older economic theory with that of the past fifty or a hundred years, they have tried to measure the degree of Aprogress[®] that has been achieved, and what such progress consists of. Some economists regard the latest theories as having effectively supplanted the older theories of the same type, first by eradicating any errors that lurked in them, and then by going well beyond them. If this were true, there would be no need to pay attention to the history of economic thought, which becomes a repository for the wrong opinions of dead men. I believe that such a view is incorrect, since the older theories have often provided insights that inspired their descendants, and may contain other insights that have been temporarily lost from sight.⁸ While the latest theories score well in clarity and overall rigor, these advantages may have been purchased at the expense of properties that are not expressible in quantitative terms but are nonetheless important, as illustrated below.

It would be equally incorrect to take the Ascriptural[@]view (as Boulding, 1971, calls it) that there has been no progress at all in economic analysis since the days of Smith and Ohlin,

and that the new trade theory lacks any originality beyond dressing itself in the technical vocabulary and mathematical language that are nowadays *de rigueur*. One of the strengths of the new theory is indeed that it can establish with precision results that were formerly intuited, but whose plausibility could not be confirmed. Beyond that, the tools of modern economic theory have allowed trade economists to create models that portray the functioning of economies of present-day complexity, rather than the simpler economies that existed one or two centuries ago.

As Boulding argues, it is best to view the modern writers as complementing rather than substituting for the older writers. Walker (1999) notes that Athe constant interplay between past and present economic studies becomes evident. Past ideas come to be used in the formulation of current theory and the understanding of past ideas requires the application of present economics to achieve a clear expression and satisfactory evaluation of them[®] (p. 17).⁹ Boulding provides evidence for this complementarity by citing the title of Merton=s (1965) book, *On the Shoulders of Giants*, and noting that the modern writers are capable of greater achievements precisely because (like Newton, who used that expression) they have been able to stand on the shoulders of the giants that preceded them. The older writers are part of the Aextended present[®] (another of Boulding=s apt concepts to describe the period of time which intellectual interaction embraces), and Awhether economists ... need to pay any attention to the classical economists or to any writers of the past depends on one=s estimate of the extent to which the evolutionary potential of these past authors has been realized or exhausted[®] (p. 230).

I believe that this evolutionary potential is far from exhausted. An example of this relates to models of the new trade theory based on the assumption of monopolistic competition, which yield interesting insights into the nature of trade and the gains from trade by reconciling increasing returns with a degree of interfirm competition. Referring to the monopolistically competitive model underlying Chamberlin=s 1933 book, rather than to the

models of the new trade theory based on it, Richardson (1975) noted that while it Acorresponds much more closely to Smith-s vision than does the perfectly competitive model ... it retains a static character foreign to Smith; preferences and production possibilities are given and the equilibrium appropriate to them represents a configuration of production that will remain the same so long as they do not change@ (p. 355). Richardson argued that Smith postulates instead Aa disequilibrium theory in the sense that he views the economy as in a state of constant and internally generated change@ (p. 351). This view is inconsistent with models yielding the economic analog of a mechanical state of equilibrium, whether a static or a dynamic steady-state equilibrium. Since many of the new trade models do yield such a long-run steady state and the latter is not a faithful representation of reality, further work is needed to take full advantage of Smith=s insights by formulating a theory of trade based on disequilibrium rather than equilibrium. This is only one example of the ways in which the writings of past authors can be sifted for useful hints that can inspire the work agenda of modern theorists.

Has there been progress in international trade theory over the past two decades? My answer is a qualified Ayes[@], qualified by my admiration for the remarkable intuition of economists such as Ohlin, which led them to anticipate many of the findings of the new trade theory even though they were unacquainted with its impressive technical machinery.

References

- Arrow, K. J. (1962), >The Economic Implications of Learning by Doing=, *Review of Economic Studies*, **29** (3), 155B73.
- Baldwin, R. E. (1969), >The Case Against Infant Industry Protection=, Journal of Political Economy, 77 (3), 295B305.
- (1992), >Are Economists= Traditional Trade Policy Views Still Valid?=, Journal of Economic Literature, 30 (June), 804B29.
- Bensel, T. and B. Elmslie (1992), >Rethinking International Trade Theory: A Methodological Appraisal=, *Weltwirtschaftliches Archiv*, **128** (2), 249B65.

- Bhagwati, J. (1989), *As Free Trade Passé after All?=, Weltwirtschaftliches Archiv*, **125** (1), 17B44.
- (1994), Free Trade: Old and New Challenges=, *Economic Journal*, **104** (March), 231B46.
- Blaug, M. (1992), *The Methodology of Economics: Or How Economists Explain*, 2nd ed., Cambridge: Cambridge University Press.
- —— (1996), Economic Theory in Retrospect, 5th ed., Cambridge: Cambridge University Press.
- Bliss, C. (1992), >The New Trade Theory and Economic Policy=, *Oxford Review of Economic Policy*, **3** (1), 20-36.
- Bloomfield, A. I. (1975), >Adam Smith and the Theory of International Trade=, in A. S. Skinner and T. Wilson (eds), *Essays on Adam Smith*, Oxford: Clarendon Press, pp. 455B81.
- Boulding, K. E. (1971), >After Samuelson, Who Needs Adam Smith?=, History of Political Economy, 3, 225B34.
- Cesarano, F. (1983), On the Role of the History of Economic Analysis=, *History of Political Economy*, **15** (1), 63B82.
- Chamberlin, E. H. (1933), *The Theory of Monopolistic Competition*, Cambridge, MA: Harvard University Press.
- De Marchi, N. (1976), >Anomaly and the Development of Economics: The Case of the Leontief Paradox=, in S. J. Latsis, *Method and Appraisal in Economics*, Cambridge: Cambridge University Press, pp. 109B27.
- Dixit, A. K. and V. Norman (1980), *Theory of International Trade*, Digswell Place: Cambridge University Press.
- and J. E. Stiglitz (1977), Monopolistic Competition and Optimum Product Diversity=, American Economic Review, 67, 297B308.
- Ethier, W. J. (1982), >Decreasing Costs in International Trade and Frank Graham's Argument for Protection=, *Econometrica*, **50** (5), 1243B68.
- Graham, F. D. (1923), >The Theory of International Values Re-examined=, *Quarterly Journal* of Economics, **38** (November), 54B86.
- Grossman, G. M. (Ed.) (1992), *Imperfect Competition and International Trade*, Cambridge, MA: MIT Press.
- ----- and E. Helpman (1991), *Innovation and Growth in the Global Economy*, Cambridge, MA: MIT Press.
- Hamilton, A. ([1791] 1966), Report on the Subject of Manufactures=, in Syrett, H. C. et al. (1966), *The Papers of Alexander Hamilton*, vol. X, New York: Columbia University Press.
- Heckscher, E. F. ([1919] 1949), >The Effect of Foreign Trade on the Distribution of Income=, in H. S. Ellis and L. A. Metzler (eds), *Readings in the Theory of International Trade*, Homewood, IL: Irwin, pp. 272B300. First published in Swedish in 1919.

- Helpman, E. (1981), ≯International Trade in the Presence of Product Differentiation, Economies of Scale, and Monopolistic Competition: A ChamberlinianBHeckscher BOhlin Approach=, *Journal of International Economics*, **11** (3), 305B40.
- (1984), Increasing Returns, Imperfect Markets, and Trade Theory=, in R. W. Jones and P. B. Kenen (eds), *Handbook of International Economics*, vol. I, Amsterdam: North-Holland, pp. 325B65.
- (1990), Monopolistic Competition in Trade Theory=, Special Papers in International Economics, no. 16, Princeton: International Finance Section, Princeton University.
- Hollander, S. (1973), *The Economics of Adam Smith*, Toronto and Buffalo: University of Toronto Press.
- Hufbauer, G. C. (1966), *Synthetic Materials and the Theory of International Trade*, Cambridge: Harvard University Press.
- Irwin, D. A. (1996), *Against the Tide: An Intellectual History of Free Trade*, Princeton: Princeton University Press.
- Kierzkowski, H. (Ed.) (1984), *Monopolistic Competition and International Trade*, Oxford: Clarendon Press.
- Krugman, P. R. (1979a), Increasing Returns, Monopolistic Competition, and International Trade=, reprinted in Krugman (1990), pp. 11B21.
- —— (1979b), >A Model of Innovation, Technology Transfer, and the World Distribution of Income=, reprinted in Krugman (1990), pp. 139B51.
- (1984), >Import Protection as Export Promotion: International Competition in the Presence of Oligopoly and Economies of Scale=, reprinted in Krugman (1990), pp. 185B98.
- (Ed.) (1986), *Strategic Trade Policy and the New International Economics*, Cambridge, MA: MIT Press.
- (1987a), >Is Free Trade Passé?=, Journal of Economic Perspectives, 1 (2), pp. 131B44.
- (1987b), >The Narrow Moving Band, the Dutch Disease, and the Competitive Consequences of Mrs. Thatcher: Notes on Trade in the Presence of Dynamic Scale Economies=, reprinted in Krugman (1990), pp. 106B20.
- (1989), Industrial Organization and International Trade=, in R. Schmalensee and R. D.
 Willig (eds), Handbook of Industrial Organization, Vol. II, Amsterdam: North-Holland.
- (1990), Rethinking International Trade, Cambridge, MA: MIT Press.
- (1991), History versus Expectations=, Quarterly Journal of Economics, 106 (2), 651B67.
- Kuhn, T. S. (1962), *The Structure of Scientific Revolutions*, Chicago: University of Chicago Press.
- Lancaster, K. (1979), Variety, Equity and Efficiency, New York: Columbia University Press.

— (1980), Antra-Industry Trade under Perfect Monopolistic Competition=, Journal of International Economics, 10 (2), 151B75.

- Leontief, W. W. (1953), Domestic Production and Foreign Trade: The American Capital Position Re-examined=, *Proceedings of the American Philosophical Society*, **97** (September), 331B49.
- List, F. ([1841] 1885), *The National System of Political Economy*, trans. S. S. Lloyd, London: Longmans, Green, and Co. First published in German in 1841.
- Maneschi, A. (1998), Comparative Advantage in International Trade: A Historical Perspective, Cheltenham, UK: Edward Elgar.
- Merton, R. K. (1965), On the Shoulders of Giants, New York: Harcourt, Brace & World.
- Mill, John Stuart ([1848] 1920), *Principles of Political Economy*, 7th ed., ed. by W.J. Ashley, London: Longman, Green and Co.
- Myint, H. (1958), >The AClassical Theory@ of International Trade and the Underdeveloped Countries=, *Economic Journal*, **68** (270), 317S37.
- —— (1977), >Adam Smith=s Theory of International Trade in the Perspective of Economic Development=, *Economica*, 44 (175), 231S48.
- Ohlin, B. (1933, 1967), *Interregional and International Trade*, Cambridge, MA: Harvard University Press.
- Posner, M. V. (1961), >Technical Change and International Trade=, *Oxford Economic Papers*, **13** (3), 323B41.
- Rae, J. (1834), Statement of Some New Principles on the Subject of Political Economy, Exposing the Fallacies of the System of Free Trade, and of Some Other Doctrines Maintained in the Wealth of Nations=, Boston: Hilliard, Gray, and Co.
- Richardson, G. B. (1975), >Adam Smith on Competition and Increasing Returns=, in A. S. Skinner and T. Wilson (eds), *Essays on Adam Smith*, Oxford: Clarendon Press, pp. 350B60.
- Robinson, J. (1933), The Economics of Imperfect Competition, London: Macmillan.
- Smith, A. (1976), *An Inquiry into the Nature and Causes of the Wealth of Nations*, Oxford: Clarendon Press.
- Spence, A. M. (1976), >Product Selection, Fixed Costs, and Monopolistic Competition=, *Review of Economic Studies*, **43**, 217B35.
- Vernon, R. (1966), International Investment and International Trade in the Product Cycle=, *Quarterly Journal of Economics*, **80** (2), 190B207.
- Walker, D. A. (1999), >The Relevance for Present Economic Theory of Economic Theory Written in the Past=, *Journal of the History of Economic Thought*, **21** (1), 7B26.
- Williams, J. H. (1929), >The Theory of International Trade Reconsidered=, *Economic Journal*, **39** (2), 195B209.
- Young, A. A. (1928), Increasing Returns and Economic Progress=, *Economic Journal*, **38** (152), 527B42.

Endnotes

2. On the policy implications of the new trade theory, see also Baldwin (1992), Bhagwati (1989, 1994), Bliss (1992), Krugman (1986).

3. The new trade theory is referred to by James Brander as the Aindustrial organization (I-O) approach to trade theory@ (Baldwin, 1992, p. 804).

4. The Leontief paradox was analyzed by de Marchi (1976) as a fascinating case study of the varied reactions of the economics profession when confronted with a significant anomaly in a prevailing scientific research program. He identified four types of reaction, the most significant being that of Athe third group, led by Samuelson though over a fifteen year period embracing a succession of prominent theorists, who chose to all but ignore the Leontief paradox@(p. 115). The reaction of de Marchi=s fourth group was to seek an alternative to the factor endowments model, a search which eventually matured into the new trade theory. On the profession=s response to the Leontief paradox, see also Blaug (1992, chapter 11).

5. See, for example, the articles collected in Kierkowski (1984), Krugman (1990) and Grossman (1992). The new trade theory has been surveyed by many authors, including Helpman (1984, 1990), Helpman and Krugman (1985), Krugman (1989) and Baldwin (1992).

6. On the continuing validity of the concept of comparative advantage in the new trade theory, and the richer connotations this concept has acquired, see Maneschi (1998).

7. This is also the implication of the model of Helpman (1981), who subtitled his paper AA ChamberlinBHeckscherBOhlin Approach@.

8. This antihistorical view is also rejected by authors such as Boulding (1971), Blaug (1996) and Walker (1999).

9. This view is echoed by Cesarano (1983), who claims that Athe study of past authors may disclose constructs, and links between constructs, which, though forgotten, may be important for current research@ (p. 77).

^{1.} Smith provided the example of the discovery of America, which expanded the market for European commodities and allowed Anew divisions of labour and improvements of art, which, in the narrow circle of the ancient commerce, could never have taken place for want of a market to take off the greater part of their produce[@] (1976, p. 448).