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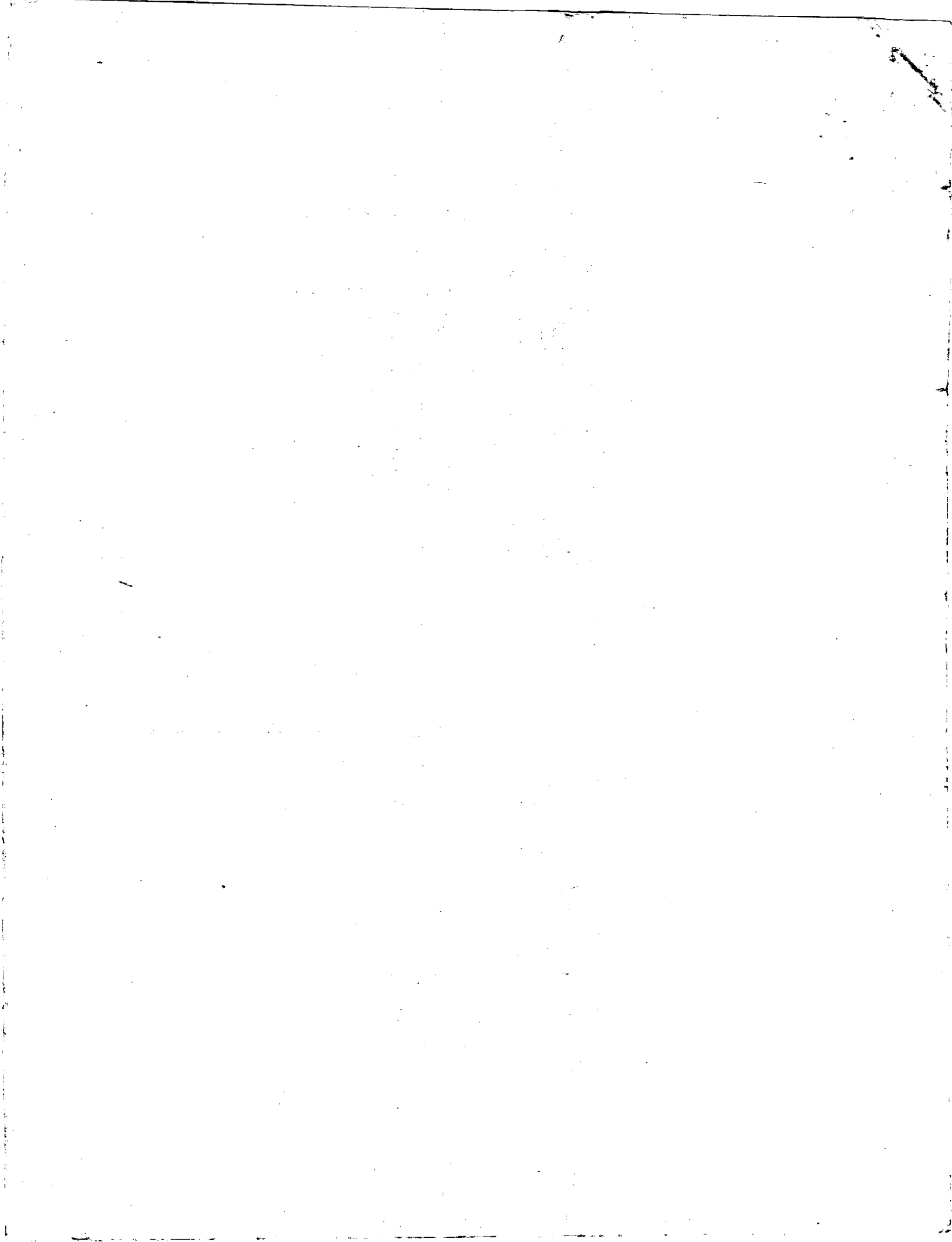
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1. DEVELOPMENT OF CONCEPTS

The concept of national income was first formulated in the seventeenth century by Sir William Petty in England and by Pierre le Pesant Sieur de Boisguillebert in France. It was a natural extension to the nation as a whole of the well-established custom in those countries of comparing the wealth and power of individuals of substance or rivaling houses of nobility in terms of their yearly incomes. From the very beginning, this broader concept took on the specific meaning of the monetary value of the nation's annual production and consumption. This meaning was further extended, in time, to include annual additions to the nation's capital.

The development of national income estimates, since Petty prepared the first one in England nearly three hundred years ago, has depended as much on the formulation of meaningful concepts of national income as on the accumulation of reliable statistics and the development of effective statistical techniques. The development of meaningful concepts, in turn, has depended on the formulation of rational theories of economic production, inasmuch as national income is merely a monetary expression of national product. Several theories of economic production, and hence of national income, have been advanced during these past three hundred years, but of them only three have survived: the comprehensive production concept, which includes among the objects of production both material and immaterial goods (i.e., commodities and services); the restricted material production concept, which includes only material goods; and the restricted market production concept, which includes both material and immaterial goods, but only to the extent that these are produced for the market.

1. The Sequence of the Main Ideas

It is sometimes stated that the material production concept antedates the comprehensive one, but this is not true. The seventeenth-century founders of modern political economy, England's

William Petty and France's Sieur de Boisguillebert, conceived of production and national income in comprehensive terms as embracing both goods and services. The later restricted material production concept of Adam Smith succeeded in temporarily crowding the comprehensive production concept off the scene, leaving some historians with the impression that it had some first. The third theoretical survivor, the restricted market production concept, is an altogether recent development and is of comparatively minor importance.

The course of development of these concepts of production and national income, like the development of thought on other important economic questions, was not always smooth. There were many rough spots, blind detours, and frustrating periods of little or no progress. The three-centuries-long development of thought can be roughly divided into six periods or stages, each one characterized by a different notion of the nature of production and national income. The first of these was the mercantilistic doctrine of the sixteenth century, which viewed national wealth as a stock of gold and provided no clearly discernible notion of national income. In the late seventeenth century, Petty and Boisguillebert formulated their more rational theory that viewed wealth as a stock of both consumable goods and the means of their production, and that also originated the concept of national income as a flow of goods and services. Theirs was a truly comprehensive production concept that defined production as the creation of all useful things whether material or immaterial. However, their theory reached only a limited audience and never influenced the official architects of economic policy of their time.

The third period was marked by the mid-eighteenth-century development in France of the physiocratic doctrine that narrowed the definition of production considerably. According to this theory, agriculture was the mother of all production and, in fact,

the only truly productive activity, for it alone was capable of producing a "revenu net" to producers. National income, according to this doctrine consisted wholly on the "net product" of agriculture. The fourth stage of development saw the emergence of the theory of material production first formulated by Adam Smith. This doctrine dealt the final blow to mercantilism at the same time that it exposed the glaring fallacies of the physiocrats. It swiftly gained popularity throughout the Western world, and for the next hundred years or so served as the basis for most national income estimates, completely overshadowing other notions of production and national income.

In the last quarter of the nineteenth century, the fifth and sixth theoretical developments occurred. They paralleled rather than succeeded each other and were representative of two completely different trends of thought. One involved a repudiation of the Smithian viewpoint and a return, instead, to the earlier comprehensive production concept of the seventeenth century. The other authored by Karl Marx, involved reformulating and significantly extending Smith's original restricted material production concept. The first of these theoretical positions was quickly accepted by all economic schools except the Marxian, and in the twentieth century was adopted as the conceptual base for national income estimates in all countries but those dominated by Marxist philosophy. The second conceptual apparatus, reworked in Marxian philosophy and language, was absorbed into the official dogma of all Marxist countries and was adopted as the base for their national income estimates.

In the mid-1930's another doctrine put in a brief appearance. Formulated by the Polish economists Kalecki and Landau, and the

Hungarians Matolcsy and Varga, this restricted market production concept did not emerge from the main stream of development and was not related to either of the major trends. It did not attract any following to speak of in Hungary or Poland and seems to have made no more lasting impression on economic thought in other countries. (1)

Finally, after World War I, and particularly since 1940, a new dynamic concept of national income came into being as a result of the influence of J. M. Keynes and his followers. Under this concept, national income, in addition to being a measure of past or current national production was also seen as a forecast of or program for future national production.

Thus, at the end of several centuries of effort we are left with just two main and one subsidiary concept of national income, and we are using them for new dynamic purposes. The merits and demerits of the two main concepts were actively debated throughout the nineteenth century in Western Europe, but in the present century they are, to all practical purposes, no longer a subject of discussion. All economists with the exception of the Marxists have agreed on the soundness of the comprehensive production concept. Disagreement among them is limited to details of its application, i.e., to the treatment of certain items of income or product. Among the Marxists there is a similar unanimity of judgment as regards the soundness of the restricted material production concept, but this unanimity, at least in Soviet Russia and some of her satellites, is more required than voluntary. The reasons for the widespread acceptance of the comprehensive production concept and the limited appeal of the material production concept cannot be understood by a single examination of the logic supporting each viewpoint. They can be understood only in refer-

(1) See Chapter 11, Section 4; and Chapter 13, Section 1e.

ence to the historical forces that have helped to shape the two concepts.

With this broad panoramic survey to provide background we can now explore each of the conceptual development in detail.

2. The Mercantilist Concept

The mercantilist school of economics, which reached its zenith in England and France in the sixteenth and seventeenth centuries, had a well-defined though erroneous concept of national wealth, and no notion whatever of national income. As expressed by John Hales (d. 1571), Thomas Mun (1571-1641), and Josiah Child (1630-1699) in England, and by Jean Bodin (1530-1596), Barthélemy de Laffémas (1545-1611), and Antonie de Montchrétien (1576-1621) in France, mercantilist doctrine held that overseas trade and shipping were the two most productive occupations because they were the most capable of increasing the country's stock of gold. Government was an important agent for increasing the nation's wealth through the controls it was able to exercise over exports, imports, and gold movements as well as over its domestic production and trade. Indirectly, by emphasizing the inherent unity of a national economy and the importance of centrally directed economic effort, the mercantilists laid the foundations upon which their successors could build a concept of national income.

3. Origination of National Income Concept by Dissenters from Mercantilism

Petty and Gregory King in England, and Boisguillebert and Seigneur Sébastien le Prestre de Vauban in France, the first social scientists to advance the notion of national income, broke away from the mercantilist school of thought and constructed fiscal and economic theoreis and programs for their countries far

in advance of their times. Petty's tracts and Charles Davenant's summary of King's national income estimates appeared in England a few years before the publication of Boisguillebert's work and some ten to sixteen years before the appearance of Vauban's in France. It is quite possible, therefore, that the two Frenchmen had read the works of Petty and of Charles Davenant and were influenced by them. Boisguillebert's second book, *Factum de la France*, contains definite evidence of his having read one or both of the English works. (2) However, it is also possible that Boisguillebert and Vauban developed their particular ideas of national income entirely independently of Petty and Gregory King.

William Petty (1623-1687) was the true originator of the concept of national income. At least no mention of this concept by any earlier political economists has been discovered so far. In his *Verbum Sapienti*, thought to have been written in 1665 but not published until 1691, four years after his death, and in his *Political Arithmetick*, believed to have been written in 1676, and similarly published posthumously. (3) Petty defined the "income of the people" as the sum of the "annual Value of the Labour of the People" and of the "Annual Proceed of the Stock or Wealth of the Nation," anticipating the modern distinction between labor income and capital income. He identified capital income as the

(2) See reprint of Boisguillebert's works in Eugène Daire, *Economistes Financiers du XVIII^e Siècle*, Paris, 1843. In chapter II (p. 273) of the *Factum de la France*, Boisguillebert says (translation is ours): "Just as it is possible to estimate the income of a household, a farm, and a village, so it is possible, for one competent in matters of this sort, to compute the income of a nation. Such a computation has been made for England, whose national income is but one fourth of France's in whatever way one may measure it; and the claim is made that this income amounts to 700 millions (livres) a year." Manifestly, Boisguillebert could have had Petty's or King's estimates in mind, which fixed England's national income at between 35 and 43 million pounds sterling.

(3) William Petty, *The Economic Writings of Sir William Petty*, edited by C. H. Hull, Cambridge, 1899, vol. I, pp. 108-10

sum of rent and other income from ownership of real and personal property, interest, and profits. He included the services of civil and military government officials in national income as well as the services of professions and other occupations. He also defined national income as the sum of the "Annual Expense of the People" and of the surplus remaining after the expense, laying down the broad propositions that "where a people thrive, there the income is greater than the expense," (4) and that "what we call the Wealth, Stock, or Provision of the Nation, being the effect of the former or past labour..." (5) In estimating this national income -- a thing never done before -- he sought to measure the extent of the nation's economic power and welfare, or as he put it, "to show...that the King's subjects are not in so bad a condition as discontented Men would make them" and also to show "the great effect of Unity, industry, and obedience, in order to the Common Safety, and each Man's particular Happiness." (6) The one possible fault in his construction of national income theory -- which was corrected by his immediate successor, Gregory King -- was an inadequate treatment of the sources of increase of the nation's wealth.

Gregory King (1648-1712), who was more a statistician than an economist, was the first truly scientific estimator of national income. In his *Natural and Political Observations and Conclusions upon the State and Condition of England* (dated 1696, but circulated only in manuscript form for the next century except for a summary of it made public by Charles Davenant in 1698), King used the terms "annual income of the nation," "annual expense of the nation," and the "yearly increase in the nation's wealth." (7) He first prepared separate estimates of per capita

(4) Ibid., p. 306.

(5) Ibid., p. 110.

(6) Ibid., p. 313.

(7) Gregory King, *Two Tracts*, edited by G. E. Barnett, Baltimore, 1936, pp. 30-31.

income, expenditure, and savings for each social and economic class in England, totaling these to obtain a single national income aggregate. In this way he obtained an estimate of the distribution of national income as well as estimates for each of the three items surveyed. His computations were, in effect, a national balance sheet foreshadowing the social accounts of today. (See Chapter 2, Section 2, for a fuller discussion of King's work.) King's concept of national income was broader than Petty's and his statistical estimates and analyses of national income were much more elaborate and precise. In many respects they were on a par with those developed in the twentieth century.

The comprehensive production concept of national income thus advanced by Petty and King became the basis of a whole series of national income estimates made by other explorers of the subject in eighteenth-century England (see Chapter 3).

Boisguillebert (1646-1714) and Vauban (1633-1707) did for France what Petty and King did for England: namely, introduced the concept of a measurable national income, provided a broad and rational definition of economic production, and initiated the first estimates of their country's national income. The two of them must be given equal credit for this pioneering work, with the distinction, however, that Boisguillebert's contributions were mainly theoretical, whereas Vauban's were principally statistical.

In his *Détail de France*, written some time in the early 1690's and published in 1697, and in his *Factum de France*, published in 1707, Boisguillebert laid down his distinction between national income ("revenu national") and income of the state ("revenu du roi"), identifying the latter as a derivative of the first, and defining production, national income, and national wealth in the broadest possible terms. Thus, he postulated the "basic principle" that "consumption and income are one and the same thing";

that "consumption is the foundation of all wealth," inasmuch as "all the riches of the world, whether belonging to the sovereign or to his subjects, are useless if they are not consumed"; and that "the growth of the national income is proportional to the progress of consumption." (8) Wealth, he wrote, is merely "the power to procure for oneself the means of a comfortable life as much in luxuries as in necessities." (9) It consists of a "complete enjoyment not only of the necessities of life, but also of all superfluities, including all things catering to the pleasures of the senses which the continued corruption of the human heart invites and refines from date to date". (10) In a primitive economy in which land is sterile there are but three or four occupations, but in an advanced country, he wrote, "there is a multitude of them, beginning with those of the baker and the tailor who produce necessities and ending with that of the actor who represents the last word in luxury and superfluity," for the task of the actor is

(8) Translated from the reprint of Boisguillebert's works in Eugène Daire's *Economistes Financiers du XVIII^e Siècle*, Paris, 1843, pp. 174, 180, 212, 279, 281-82. Even more effectively than Petty three decades or so before and just as effectively as Adam Smith three quarters of a century later, Boisguillebert exposed the fallacies of the mercantilistic concept of national wealth as a stock of gold and of national income as the annual accretion to that stock. He defined the true function of money as a mere medium of exchange. Thus he wrote (pp.162, 209-10, 214): "Wealth does not consist, as you may think, of gold and silver but only of consumable things, including the raw materials furnished to you by agriculture. Gold and silver are wealth only for the countries which produce them. For all other countries they are but the traditional means of payment for goods, which alone makes the acquisition of these media worthwhile. The richer the country, the more readily it can dispense with precious metals, for it has just so much larger proportion of people in whose case the use of metallic money can be supplanted by the use of pieces of paper called 'bills of exchange.'"

(9) *Ibid.*, p. 210.

(10) *Ibid.*, p. 403.

"to flatter the ears and to satisfy the spirit often by a fanciful tale which everybody knows has no relation to reality; and only a people who feel perfectly secure in their necessities can afford to buy pleasant lies. Just as in times of opulence one reaches for the services of actors as the highest mark of luxury, so when misery strikes a people their services are the first to be dispensed with in an effort at a retrenchment of expenditures." (11) In proclaiming the services of actors to be a mark of a high level of national income, Boisguillebert was much closer to twentieth-century thought than was Adam Smith, who, guided by his Scottish philosophy of thrift and austerity, declared a hundred years later that actors were unproductive laborers.

Boisguillebert further asserted as a basic principle that "all occupations in a given country, whatever may be their nature...work for each other and maintain themselves reciprocally" and that "once having become a part of the social body in the course of historical evolution, they can no longer be disjoined or separated without causing a fundamental alteration in the whole social body." (12) Thus, with a clarity unequaled in any economic writing of the next hundred years or more, Boisguillebert expressed the concept of the internal unity of the economic system and the interdependence of its various parts. Naturally, he classified agriculture as the primary branch of production but he did not claim that it was the only productive occupation. In this respect he was wiser than the physiocrats were half a century or so later. But he made one possible mistake: unlike some of his British contemporaries he did not sufficiently emphasize the importance of saving and capital formation in achieving greater national prosperity. This failure was probably due to Boisguillebert's overriding desire to improve the economic status of the lower classes forthwith rather than to increase the wealth and power of his country in the long run. The

(11) Ibid., p. 405.
(12) Ibid., p. 404.

most urgent economic problems of the time arose out of the intolerable tax burden that was ruining production and plunging the common people into ever greater misery; and it was this condition that he sought to ameliorate.

While identifying national income with a flow of goods and services, Boisguillebert also defined it as a flow of money incomes. He believed that national income consisted of two approximately equal parts: (a) income from property ("revenu des fonds"), such as land, houses, mills, toll houses, revenue-producing public offices, and moneyed capital, in other words incomes from rent, interest, profits, and fees; and (b) income from "industry," meaning income from labor. Among the latter he included the income of peasants, artisans, factory workmen, petty tradesmen, and professional people. (13) The similarity between Boisguillebert's and Petty's ideas is striking, and, as already stated, may possibly have been due to Boisguillebert's acquaintance with Petty's work.

Vauban in his book, *Dîme Royale*, published in 1707, spoke of national income as the "income of the Kingdom" (revenu du royaume), similarly treating it as the source from which the tax revenue of the King was derived; and he defined it just as broadly as Boisguillebert did, as being composed of incomes from agriculture, commerce, industry, and all other occupations. (14) Moreover, he was the first in France to attempt to give national income a definite statistical expression (see Chapter 4, Section 2).

(13) *Détail de France*, op. cit., Chapter V on the "Great Interest Which the King Has in the Improvement of the National Income," p. 175. The editor of his works, Eugène Daire, a follower of Adam Smith, 150 years later (1843) in his annotations to the *Détail* (p. 175) took Boisguillebert to task for committing the "grave error" of including immaterial products in national income.

(14) Reprinted in Eugène Daire, op. cit. See particularly Chapter X, p. 149.

4. The Physiocratic Concept of Production and of National Income

The physiocrats of eighteenth-century France, as represented by Francois Quesnay (1694-1774), Mercier de la Rivière (1720-1793), Comte de Mirabeau (1715-1789), and Dupont de Nemours (1739-1817) advanced a concept of the nature of production, national income, and wealth that was much narrower than Boisguillebert's. First of all, it was a materialistic concept, defining national income and wealth as an aggregate of consumable commodities only. Secondly, it treated agriculture as the only truly productive occupation by virtue of the fact that it was the only one returning more to producers than their investment of capital and labor, actually yielding them a net income ("produit net") that represented the free contribution of nature. This notion of net income, later to play such an important role in economic theory as "net rent," was first conceived by the physiocrats. As to the nonagricultural occupations, the physiocrats took the position that although these were not necessarily useless, they were sterile in the sense that they did no more than return their costs.

The physiocratic doctrine did not develop in intellectual isolation from its economic, political, and social environment. It was, rather, a logical expression of its time and place. First of all, France was then the richest agricultural nation on the European continent and its most prosperous inhabitants were landowners who regarded themselves as the most productive members of society. Secondly, France's industry and overseas commerce had been ruined by a series of unsuccessful wars, while her agriculture had gone unscathed. As a result, the French economists, in their debates with the English, whose country was growing ever more prosperous industrially and commercially, tended to emphasize their nation's superiority in agricultural pursuits. Most of the physiocrats were themselves landed proprietors, albeit the "left wingers" of that class, and their outlook was unmistakably that of the agriculturist.

One of the most important contributions that the physiocrats made to the concept of national income was Quesnay's construction of the "Tableau Economique." This "Tableau" was a "model" demonstrating the flow of national income in the economic system. The flow was shown to begin with the farmers and their workers (the productive class), then to reach the landowners (the controlling and distributive element in the economy), and finally to end with the people engaged in the remaining nonagricultural activities (the sterile class). In thus tracing the flow of national income, the physiocrats emphasized the great role that capital played in its formation. At that time large capital investments in improvements of agricultural land, livestock, and agricultural implements were markedly raising the productivity of French agriculture. By emphasizing the role of capital in the formation of national income, the physiocrats made a new and lasting contribution toward a sounder and more realistic concept of national production and national income.

The physiocratic concept of national income provided the basis for the famous estimate made by the scientist Antoine Laurent Lavoisier (1743-1794) at the order of the French National Assembly in 1791, which decapitated him for this and other services three years later (see Chapter 5, Section 4, below). (15)

5. Italian Economists Going Their Own Way: Galiani, Verri, and Palmieri

In Italy, during the eighteenth century, quite independent of the main currents of economic thought that swept through England, France, and the rest of Europe during that period, a very vigorous

(15) For a fuller treatment of the physiocratic doctrine, See J. S. Schumpeter, *History of Economic Analysis*, New York, 1954, pp. 229-30, 238-43; *Encyclopaedia of Social Sciences*, vol. V, pp. 348-51; and Chapter 5, below.

development of economic theory took place. When one reads the writings of the Italian economists of that century, whose breadth of thought and brilliance of exposition was not surpassed by any of their English or French contemporaries, one is even further convinced that Adam Smith led economics astray. Unlike Smith, these economists traveled the main road of the comprehensive production concept as it had been laid out by the philosophers of antiquity and scholasticists of the Middle Ages, and had been most clearly mapped out by Petty and Boisguillebert. They did not wander down the blind alley of Smith's material production concept nor were they detoured by the appeals of physiocratic doctrine. They rejected the physiocrats as vigorously as Smith, and even earlier than he did, without making his mistake of reapplying the distinction between productive and unproductive labor in a new and equally misleading manner. They declared all labor resulting in the production of useful and desired things to be productive, without insisting that these things take on material form; and they identified national income as the value of the annual production of all such comprehensively conceived useful and desired things. Inasmuch as the physiocrats held manufacturing in particular contempt, the Italian economists concentrated on defending it, but were ready to apply the same defense to other types of non-agricultural activity as well.

a. Galiani

Ferdinando Galiani (1728-1787), the highly gifted and learned Neapolitan abbé and one-time (1765-1769) Secretary of the Neapolitan Embassy in Paris, rose to the defense of manufacturing as early as 1769. He did this in his *Dialogues sur le Commerce des Blés* (*Dialogues on the Trade in Grain*), some twelve years after Quesnay had published his article on the subject in the French Encyclopaedia, in which he fully outlined his economic doctrine. Written and published in French, and acclaimed by Voltaire as

combining the virtues of the best works of Plato and Molière and as being as readable as the best of novels, Galiani's Dialogues achieved great popularity among the members of French society because of its elegant style and the clarity and charm of its exposition.

In taking this position in opposition to the physiocratic doctrine, Galiani merely extended the views on the nature of production he had expressed in a treatise on money: *Della Moneta*, published in Italy eighteen years before (1751) when he was only twenty-three years old. In this treatise he defined wealth as the "possession of anything desired more by others than by its possessor." In an manner reminiscent of Boisguillebert's writings of more than a century before, with which he must have been acquainted, Galiani declared that "among such useful and desired things man is most useful to other men" and that "then come the foods used for consumption, the clothes, the habitation, and lastly, all those comforts that satisfy the secondary pleasure of men." (16)

In his Dialogues, Galiant took issue not only with Quesnay's advocacy of the repeal of the prohibition of the exports of grain, but with his general economic theory as well. Galiani sought to demonstrate that manufacturing far from being a "sterile occupation," was actually more productive than agriculture. (17)

Galiani's versatile interests and lively spirit eventually carried him away from economics into the fields of philosophy, political theory, literature, and practical public administration.

(16) *Della Moneta* (1751), reproduced in P. Custodi (*Italiani Scrittori di Economia Politica*), Parte Moderna, Milano, 1803, vol. 3, p. 222. All translations from the Italian writers in this section are the the author's.

(17) *Dialogues sur le Commerce des Blés* (1769), reproduced in G. de Molinari, Necker, Galiani, Montyon, Bentham, Paris, 1848, p. 197.

b. Verri

Pietro Verri (1728-1797) covered a much wider field of economics than Galiani and concerned himself more closely with the nature of production and the sources of national economic prosperity. The son of a wealthy and eminent member of the administration of Milan, which was then a part of the Austrian Empire, Verri was well educated; and developed an early interest in scholarly pursuits. After brief military service, he entered the civil administration of Milan where he apparently won the respect of Prince Kaunitz (1711-1794), the practical head of the Austrian government, one of the greatest European diplomats of the time, and a patron of science and the arts. In the course of his concern with public affairs, Verri became deeply involved in the exploration of basic questions of commercial policy of benefit to his state of Milan and in inquiries into the broader problems of economics generally, and proceeded to develop his views in print. Together with a group of other gifted young men, Milanese patriots like himself, he founded a literary and scientific society and launched a periodical, *Il Caffé*, modeled after the *English Spectator*. In that publication appeared many articles of lasting importance on a variety of scientific and literary subjects.

In 1771, Verri published his *Meditazioni Sull' Economia Politica* (18) in which he advanced a definition of production and national income that was broader and, in some respects, better than that Adam Smith was to provide in his *Wealth of Nations* five years later. Verri, like Galiani, did not limit production to the creation of material things. He wrote: "In every nation the inhabitants consume annually not only food, but also clothes, and furniture, and everything that can be of service to men. The sum

(18) Reproduced in Custodi Collection, op. cit.

of the values of these things constitutes the nation's annual re-
production....When a nation produces more than it consumes, its
wealth increases...if it consumes more than it produces its
wealth decreases." (19)

Anticipating Adam Smith, Verri held that the manufacturer or artisan receives in the price of his product more than a mere reimbursement for his outlays for raw materials, labor, and his own consumption; and that this surplus constitutes an addition to the nation's wealth. Refuting the physiocratic doctrine of the sterility of manufacturing production, he maintained that the nation was wealthier after such production than it was before; and cited as proof the fact that the "artisan, if he is able and intelligent, changes his level of living; and if he cannot achieve this improvement for himself does so for his children ." He contrasted the artisan's situation with that of the peasant, who generally "is compensated for his work only by the amount he consumes" and "seldom ends his days any richer than he began" and who, in fact, "may descend from twenty generations of equally poor peasants." Verri further asserted that all wealth has its origin in labor, and that production is not the creation of matter but merely the modification of existing matter to suit human needs. He wrote:

All the phenomena of the universe, whether produced by the laws of physics or by the hand of man, do not result in creation but only in a change of matter. To combine and to separate are the only elements involved in the concept of production.

Refuting the physiocratic designation of manufacturing as a sterile occupation, Verri wrote:

Just as production of wealth and value takes place when the seed, the earth, the air and the water turn into grain, so it

(19) Ibid., pp.22-25.

takes place when by the hand of man the inside of an insect becomes velvet or pieces of metal are organized into something else. Entire cities and states live off the production of this so-called sterile class, whose production includes the value of the raw material, proportionate consumption of the labor used plus the profit of whosoever undertakes the manufacture. (20)

c. Palmieri

A few years later, in 1787, Giuseppe Palmieri (1721-1794), distinguished scholar, military figure, and fiscal administrator in the Neapolitan government, published a treatise on public welfare, *Pubblica Felicità*, which barring the works of medieval scholasticists, was a notable precursor of the welfare economics of the twentieth century. In this work, and in one on national wealth, *Della Ricchezza Nazionale*, which followed it in 1792, Palmieri advanced his thoughts on the nature of production and the sources of national economic prosperity, which like Verri's, were unique for the time. Palmieri had read Adam Smith, whose book was available at the time, but his contact with Smith's ideas did not divert him from his own original and broad approach. (21)

All the prominent Italian economists of this period, including Gian R. Carli (1720-1795) and Cesare Beccaria (1738-1794), advocated freedom of enterprise and, within certain limits, a governmental policy of *laissez faire*. Verri was particularly

(20) Ibid., pp. 25-30.

(21) Both of Palmieri's works are reproduced in the Custodi Collection, op. cit., Parte Moderna, 1805, vols. 37 and 38.

outspoken in favor of this policy. (22)

The interest that all these Italian economists expressed in the nature of production, national income, and wealth, however, never went further than a definition of basic principles. None of them was interested in statistics and none attempted to measure the size and structure of his state's production and national income. Owing to the barrier of language, their influence, unfortunately, did not spread far beyond the limits of Italy.

6. Adam Smith's Material Production Concept

Adam Smith (1723-1790) was greatly influenced by physiocratic thought. He studied it closely during his prolonged sojourns in Paris and his numerous visits with its leading exponents. His great book published in 1776, *Wealth of Nations*, shows the ear-marks of this influence. He acknowledged his indebtedness to the physiocrats when, in reviewing their doctrine and pointing out some of its errors, he concluded nonetheless that "this [physiocratic] system, however, with all its imperfections, is, perhaps, the nearest approximation to the truth that has yet been published upon the subject of political

(22) Thus Verri wrote: "Money obtained with industry and distributed over a great number of people will speedily remedy any disparity in production....Nature itself (meaning free actions of man in monetary exchanges) when she is allowed to work freely would treat all men as a kindly mother, correcting the excesses and deficiencies of all factions, distributing the good things and the bad things in proportion to the activity and wisdom of people and leaving among them only those disparities that are sufficient to keep in motion the desire and the industry of man, just as in the ocean, because of the actions of celestial bodies, waters move in tides. Political obstacles thrown into the path of nature because of the quest of politicians for perfection can do more than retard that equilibrium to which all moral and physical things necessarily tend" (Verri, *Custodi Collection*, op. cit., p. 31).

economy..." (Book IV, Chapter IX, p. 642). (23)

Adam Smith adopted the physiocrats' distinction between "productive" and "unproductive" labor, merely modifying it to include in the "productive" category all labor engaged in the production of material goods. He criticized the physiocrats for classifying manufacturing, trade, and transportation as sterile occupations, insisting that these other branches of "material goods production" were just as capable of returning a net income to the producers as was agriculture, this net income taking the form of profits instead of net rent. Adam Smith derived from the physiocrats a large part of his analysis of capital formation (including the breakdown of capital into operating and fixed, and the concept of the reproduction of capital). He also borrowed from them a part of his theory of wages.

He was also influenced by the physiocrats in his development of a distinction between net and gross national income. The physiocrats had fumbled the distinction by confusing net agricultural rent with net national income. Smith introduced a broader and more realistic distinction that became firmly established in later economic theory. He defined the gross income of a nation as the aggregate value of all products created during the period of a year (gross of the costs of raw materials and other duplications), and the net income as the value remaining after deductions of these duplicated costs. Thus Adam Smith wrote:

The gross revenue of all the inhabitants of a great country, comprehends the whole produce of their land and labour; the neat revenue, what remains free to them after deducting the ex-

(23) Adam Smith, *Wealth of Nations*. All references to his work are from the Modern Library edition, N. Y. City, 1937.

pense of maintaining; first, their fixed; and secondly, their circulating capital; or what, without encroaching upon their capital, they can place in their stock reserved for immediate consumption or spend upon their subsistence, conveniences and amusements. Their real wealth too is in proportion, not to their gross, but to their neat revenue. (24)

In this particular passage Adam Smith did not mention the additions to capital as a part of net national income. But in other passages he did refer to them, and, in fact, emphasized that such additions constituted the main source for increasing national production and property. (25)

In a famous and often quoted passage, Adam Smith laid down his distinction between what is and what is not productive labor, as follows:

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. Thus the labour of a manufactures [i.e., manufacturing worker] adds, generally, to the value of the materials which he works upon, that of his own maintenance, and of his master's profit. The labour of a menial servant, on the contrary, adds to the value of nothing...the labour of the manufacturer fixes and realizes itself in some particular subject or vendible commodity, which lasts for sometime at least after that labour is past...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

(24) Wealth of Nations, op. cit., p. 271.

(25) Ibid., p. 236.

their performance, and seldom leave any trace or value behind them, for which an equal quantity of service could afterwards be procured.
(26)

In accordance with this broad thesis, Adam Smith classified as productive laborers those engaged in agriculture, manufacturing, commerce, and the transportation of goods, while rating as "unproductive" laborers the whole civil and military personnel of government, the professions, the domestics, and others engaged in the performance of personal services and the services of dwellings. He considered the national product to be constituted solely of commodities, and the national income (or "net revenue") to be composed of wages, rent, and profit (including interest) derived from the production of these articles (Book II, Chapter II). The wages and salaries, profits, and other forms of income earned in the rendering of services were not a part of the "net revenue" of the nation. They were a derivative revenue drawn from the revenue created by the productive labor, and represented merely an expenditure on the part of productive labor. Services of dwellings just as any stock of goods used for immediate consumption, are also not a part of the national income, inasmuch as these services afford no revenue or profit. (27)

Adam Smith viewed the economic process not as the circulation of consumable and investible goods and income, but wholly as the circulation of entrepreneurial fixed and operating capital. The entrepreneur's advances of wages and other operating expenses are returned to him, and profits are created for him in the process of production, thereby insuring the continuation of the process. Only "productive labor" has this capacity of reproducing its own

(26) Ibid., Book II, Chapter III, pp. 314-15.
(27) Ibid., Book II, Chapter I, pp. 263-64.

value and creating profit. Labor engaged in the rendering of services does not reproduce its costs or produce profits. Although such labor "has its value and deserves its rewards," it represents the consumption and not the production of wealth. The "neat revenue" is spent by laborers and masters "upon their subsistence, conveniences and amusements" and, implicitly, on taxes. (28) In this way part of the original "neat revenue" is redistributed as the incomes of the unproductive laborers. Finally, within the framework of his definition of "productive labor," he maintained that a nation is richer to the extent that it spends more of its income on durable commodities and less on perishable things, and also to the extent that it saves more of its income for the accumulation of capital (Book II, end of Chapter III).

While materially contributing to the clarification of the concept of national income in some respects, Adam Smith was also responsible for introducing new sources of confusion that were to plague economists for many years to come. Thus, he erroneously concerned himself with wealth primarily in terms of a "stock of goods," seriously neglecting its aspects as a "flow" of utilities, i.e., of national income. In this respect his analysis was a backward step -- backward from the physiocrats, and backward from Petty and his other predecessors more than a hundred years earlier. Adam Smith's differentiation between productive and unproductive labor on the basis of the materiality or immateriality of its product, i.e., his restriction of the concept of production to material objects, viewed in a broad historical perspective, was also a major error. It was, perhaps, more an error in terminology than in fundamental thought, but it certainly was most unfortunate in its consequences. Adam Smith's followers accepted his distinction literally, but when Karl Marx breathed new life into it over a

(28) Ibid., Book II, Chapter II, p. 271.

century later, he gave it at the same time a wholly different meaning that was destructive of the ethical foundations of capitalism. Smith's introduction of the restricted material production concept, in the light of the influence it exerted over the next century, can be said to have been a serious interruption in the logical development of economic analysis begun by William Petty and to have retarded the growth of national income theory and practice.

Speaking of Adam Smith's contribution to economic theory generally, Schumpeter wrote that his "chief task was to combine and develop the speculations of his French and English contemporaries and predecessors" but that he had not done this job as well as had, say, Turgot in France and Beccari in Italy; and he added: "The blame is at his door for much that is unsatisfactory in the economic theory of the subsequent hundred years, and for many controversies that would have been unnecessary had he summed up in a different manner." (29) This criticism may be just as aptly applied to Adam Smith's contribution to the theory of national income.

Adam Smith's book achieved instant popularity not only in England and in the United States, but also in other lands in which it appeared in translation. His concept of production was adopted by most political economists of the so-called "liberal" school of the succeeding half a century or more, rapidly displacing both the mercantilistic and physiocratic doctrines. It particularly suited the economic thinking of a period characterized by the rapid development of manufactures and by the emphasis on the possession of a large supply of material goods as the basis of national prosperity.

Smith's doctrine of production, wealth, and income was adopted by Ricardo, Malthus, James Mill, John Stuart Mill and, with some

(29) Schumpeter, op. cit., pp.307-8.

qualification, by R. D. Baxter in England; by Sismondi, Daire, and Baudrillart in France; by Hufeland, Jakob, Kraus, Rau, and Neuman in Germany; (30) and most of the national income estimates prepared during the succeeding three quarters of a century were based on it -- those of Chalmers, Colquhoun, Lowe, Pebrer, Spackman, and in part, Baxter in England; Chaptal, Moreau de Jonnés, and Block in France; and Tucker in the United States.

7. The Return to the Comprehensive Production Concept

Some criticism of Smith's material concept of production appeared in England, France, and Germany soon after the publication of his book. It was made by economists who, on the whole, enthusiastically accepted most of the other parts of Smith's "liberal" economics; and their critical comments grew more numerous and telling in time.

The first to criticize the doctrine were James Maitland, Lord Lauderdale (1759-1839) in England, (31) and Germain Garnier (1754-1821), translator of Smith's work, in France. They were joined by Henrich Storch (1766-1835), eminent member of the St. Petersburg Imperial Academy of Sciences, whose works (1806-1827) translated into both French and German had a wide reading public throughout the Western world; (32) and by J. B. Say (1767-1832) (33) in the

(30) For a fuller description of the wide acceptance of the Smithian concept of production during the first half of the nineteenth century see: Edwin Cannon, *A History of the Theories of Production and Distribution*, P. S. King, London, 1924, Chapter 1; Adolph Wagner, *Volkswirtschaftslehre: Grundlegung*, Leipzig, 1876, Chapters 1 and 2, and particularly note on p. 17; J. A. Schumpeter, *op. cit.*, pp. 190-213, 628-31.

(31) *An Inquiry Into the Nature and Origin of Public Wealth*, Edinburgh, 1804.

(32) *Papers in the Publications of the St. Petersburg Imperial Academy of Sciences, 1806-1827 (in French)*; his *Cours d'Economie Politique*, 4 vols., annotated by J. B. Say, Paris, 1823, and his *Zur Kritik des Begriffs vom Nationalreichthum*, St. Petersburg 1827.

(33) *Traité d'Economie Politique*, Paris, 1803, Book I. Chapter III.

later editions of his work, Charles Ganilh (1758-1836) (34) and Destutt de Tracy (1754-1836), (35) in France. Next, in the second and third quarters of the nineteenth century, the doctrine was subjected for further devastating criticisms at the hands of J. R. McCulloch (1789-1864) (36) and N. W. Senior (1790-1864) (37) in England; by Antoine Auguste Walras (1801-1866), (38) Pellegrino Rossi (1787-1848) (39) and Charles Dunoyer (1786-1863) (40) in France; and by F. B. W. Hermann (1795-1868) (41) and Wilhelm Roscher (1817-1894) (42) in Germany.

All these writers conceived of production as serving consumption, and of national product as comprising both commodities and services. The distinction Smith drew between durable and nondurable utilities, though valid for other purposes, appeared to them to be wholly irrelevant to the issue of what constitutes production and what does not.

Smith's followers were unable to provide any effective answer to these criticisms and, for the most part, remained silent; or else conceded in the end (as did R. Dudley Baxter in England) (43) that Adam Smith was mistaken in this part of his theory.

(34) La Théorie de l'Economie Politique, Paris, 1815.

(35) Treatise on Political Economy, translation published in the United States in 1817.

(36) Principles of Political Economy, 1825.

(37) Outline of the Science of Political Economy, London, 1836.

(38) De la Nature de la Richesse, Paris, 1831, Chapter 2.

(39) Cours d'Economie Politique, Paris 1840.

(40) De la Liberté du Travail, Paris, 1845.

(41) Staatswirtschaftliche Untersuchungen, Munich, 1832.

(42) Volkswirtschaft, Stuttgart, 1854.

(43) National Income -- The United Kingdom, London, 1868, Chapter 8, p. 72.

Alfred Marshall (1842-1924), in his *Economics of Industry*, published in 1879, and in his later treatises, championed the comprehensive production concept, and by the force of his authority influenced all modern economists (Marxists excepted) to adopt it. At the same time, Marshall also confirmed the importance of distinguishing between "gross" and "net" national income and of avoiding double counting. Thus, he wrote:

Everything that is produced in the course of a year, every service rendered, every fresh utility brought about is a part of the national income.

Thus it includes the benefit derived from the advice of a physician, the pleasure got from hearing a professional singer, and the enjoyment of all other services which one person may be hired to perform for another. It includes the services rendered not only by the omnibus driver, but also by the coachman who drives a private carriage. It includes the services of the domestic servant who makes or mends or cleans a carpet a dress, as well as the results of the work of the upholsterer, the milliner, and the dyer.

We must however be careful not to count the same thing twice. If we have counted a carpet at its full value, we have already counted the values of the yarn and the labour that were used in making it; and these must not be counted again.

Suppose however a landowner with an annual income of £10,000 hires a private secretary at a salary of £500, who hires a servant at wages of £50. It may seem that if the incomes of all these three persons are counted in as part of the net income of the country, some of it will be counted twice over, and some three times. But this is not the case. The landlord transfers to his secretary, in return for his assistance, part of the purchasing power derived from the produce of land; and the secretary again

transfers part of this to his servant in return for his assistance. The farm produce, the value of which goes as rent to the landlord, the assistance which the landlord derives from the work of the secretary, and that which the secretary derives from the work of the servant are independent parts of the real net income of the country; and therefore the £10,000 and the £500 and the £50 which are their money measures, must all be counted in when we are estimating the income of the country. But if the landlord makes an allowance of £500 to his son, that must not be counted as an independent income; because no services are rendered for it....(44)

In his later, more comprehensive work he elaborated upon the same subject as follows:

The labour and capital of the country, acting on its natural resources, produce annually a certain net aggregate of commodities, material and immaterial, including services of all kinds. The limiting word "net" is needed to provide for the using up of raw and half-finished commodities, and for the wearing out and depreciation of plant which is involved in production: all such waste must of course be deducted from the gross produce before the true or net income can be found. And net income due on account of foreign investments must be added in. This is the true net annual income, or revenue; or, the national dividend: we may, of course, estimate it for a year or for any other period. (45)

By this time, the Smithian concept of material production appeared to be in full retreat. Its fallacies had become apparent to most economists who otherwise accepted Smith's theories. Among them were: in England (in addition to Marshall) (46)

(44) Alfred Marshall, *Economics of Industry*, 4th ed., London, 1909, pp. 52-53.

(45) Alfred Marshall, *Principles of Economics*, 8th ed., London, 1936, Book VI, Chapter I, pp.523-24.

(46) *Economics of Industry*, London 1879.

Edwin Cannan (1861-1935); (47) in Germany, Adolph Wagner (1835-1917); (48) in France, Alfred de Foville (1842-1913), Pierre Paul Leroy-Beaulieu (1843-1916) and C. Colson (1853-1939).

A number of national income estimates based upon the comprehensive production concept appeared toward the end of the century. Among them were those of William Smart (1899) in England, and Louis Wolowski (1871), Alfred de Foville (1891), and C. Colson (1899) in France, and Pokrovsky (1897) in Russia. M. G. Mulhall (1836-1900) in his *Dictionary of Statistics* (London, 1883) and in his *Industries and Wealth of Nations* (London, 1896) presented national income estimates for 22 countries based on the comprehensive production concept (see Chapter 9, Section 7). The only important figure in modern economics who still adhered to Smith's concept of production by the second quarter of the twentieth century and who built his national income estimates upon it was the Hungarian economist and statistician, Friedrich von Fellner. But he had only a few followers -- mostly in Czechoslovakia, Yugoslavia, and Hungary. Today, so far as available information would indicate, no estimates are being made on the basis of the Smithian concept.

8. Marxian National Income Theory

a. Revival of the Smithian Material Production Concept Under a Marxian Imprint

Just as Smith's material production concept was about to be cast out, it suddenly received powerful support from a wholly unexpected quarter: Karl Marx (1818-1883), the founder of modern

(47) *History of the Theories of Production and Distribution*, London, 1893.

(48) *Volkswirtschaftslehre*, Leipzig, 1876.

socialism, in his posthumously published books, *Das Kapital*, Vol. II (1885), and *Theories of Surplus Value* (1904), offered a new version of Smith's concept. Its kindships to the original was not fully apparent at first, for it was cloaked in different language and Marx's followers vigorously denied its relationship to Adam Smith's idea, claiming that it was entirely original. The kindship is undisputable, however, and was recognized by Marx himself in his more elaborate treatment of the subject in *Theories of Surplus Value*. (49) Karl Marx went to great lengths in this book to prove that Adam Smith was entirely correct in his particular distinction between productive and unproductive labor and that all his critics were in error. He merely pointed out certain inconsistencies and irrelevancies in Smith's concept, claiming credit only for eliminating them from its otherwise sound substance.

No economist in the nineteenth century did as much as Marx, in his then unpublished manuscript, to defend the Smithian doctrine against its critics, or, as he called them, "detractors." Under Marx's aegis the Smithian doctrine of material production gained a new lease on life. More than that, it became an ideological cornerstone of the socialist movement -- a use that Adam Smith could scarcely have anticipated.

Marx was the first to point out that Adam Smith's distinction between productive and unproductive labor contained two unrelated ideas -- one that viewed labor as a supplier of profits and capital to the entrepreneur; and the other that considered labor in terms of its production of utilities for consumption. He maintained that only the first view of labor was meaningful for economic analysis of the operations of the capitalistic system, and that in

(49) For a fuller exposition of Marx's treatment of the Smithian doctrine and correction of it, see his *Theories of Surplus Value*, newly translated and published under the title *A History of Economic Theories*. Langland Press, New York, 1952, pp. 200-24.

following the second notion, Adam Smith was in error. He wrote:

Adam Smith's adversaries have neglected his first explanation (based on the profitability or non-profitability of labor) in order to seize upon his second (based on the nature of the use value of the product), whose contradictions and non-sequiturs they have emphasized. In order to polemicize against them the more comfortably, they have insisted upon the material form of labor and above all upon the fact that labor must fix itself in a more or less durable product. (50)

Thus, Marx denied that the form of the product -- material or immaterial -- has anything to do with the distinction between productive and unproductive labor. The fact that a commodity has a more lasting use value than a service, he insisted, does not make the labor involved in its manufacture productive. He wrote:

The concrete character of the labor, and therefore of its product, do not, as such, play any part in this division of labor into productive and unproductive. Chefs and waiters, for instance, are productive laborers in the sense that their labor is converted into capital for their employer....That labor is productive which produces capital...The use value of a commodity in which the labor of a productive laborer is realized may be of the most trifling nature. The material resulted has no relation at all with this quality [of materialization of productive labor] which is simply the expression of a social condition of production. The result has its origin not in the content nor in the produce of the labor but in its determined social form. (51)

(50) Ibid., p. 212.

(51) Ibid., pp. 198-200.

In Theories of Surplus Value, Marx gave full credit to Adam Smith for having been the first to introduce the proposition that under the capitalistic system only that labor is "productive" which produces profits and capital for the entrepreneur, and he criticized Smith only for not adhering to this definition more consistently and for not drawing from it all pertinent conclusions.

Recognizing in that manuscript, written in the 1860's, that services as well as goods can be produced under a capitalistic system in a way to produce profits and capital for the entrepreneur, and could, therefore, be "productive labor," Marx chose nonetheless in all his subsequent writings to associate productive labor with the creation of material goods alone. Adam Smith may have committed this error unwittingly, not realizing that some services were already being conducted capitalistically, but Marx did so knowingly. He understated the extent to which services were conducted capitalistically in his day (passenger services of railroads, and steamship companies, and communication services of telegraph agencies). He wrote:

...in the case of all the performances of artisans, actors, professors, doctors, parsons, etc....capitalist production is very limited and occurs only in certain spheres. In institutes of learning for example, the professors can be mere wage workers hired by the entrepreneur. Such factories of learning are numerous in England. Vis-á-vis the entrepreneur, they are productive laborers, although they are not so vis-á-vis the students [Marx did not entertain much respect for the learned institutions and professions]. The director exchanges his capital for their labor power and enriches himself by this operation. The same is true of theatrical and concert producers...an actor is a productive laborer to his producer. But all these phenomena of capitalist production are insignificant compared with the whole. We can therefore

disregard them altogether. (52)

Marx chose to disregard them, because he could develop his thesis of the materialization of surplus value into capital more easily in the case of commodities than in the case of services. In defending Adam Smith's material concept of production against the criticisms of the economists who expounded the comprehensive concept of production, Marx wrote: "The commodity is the most elementary form of bourgeois wealth. To say [as Adam Smith did] that that labor is productive which produces commodities is therefore responsive to the even more elemental point of view that labor is productive only if it produces capital." (53) It is significant that the followers of Marx never bothered with the fine distinctions he drew in Theories of Surplus Value (between the materialization of the surplus value in the product and the materialization of its use value), which permitted the inclusion of services in "production." To them "material production of material goods at all times, and it alone deserved to be called "production."

At any rate, the material production concept as Marx revised it became firmly imbedded in socialist theory, and provided, more than half a century later, the basis of all national income estimate prepared in countries dominated by the Marxian doctrine.

b. Marx's Theory of Value

Closely associated with the reformulated doctrine of material production was Marx's theory of exploitation of labor in which he definitely departed from Adam Smith. The values of all commodities, he insisted, were merely "congealed labor." Profits, including interest, were merely the "surplus value" created by labor and appropriated to himself by the entrepreneur; they were the

(52) Ibid., p. 327.

(53) Ibid., p. 212.

wages withheld by the entrepreneurs from the workers. (54) The only productive labor was that of the worker. The entrepreneurs were the parasitic class. National income, superficially consisting of wages, profits, interest, and rent, was in reality income created by the laboring class alone. Where the physiocrats elevate the cultivator to the sublime position of the creator of all wealth and supporter of all other occupations in the nation, Marx elevated the industrial laboring class to this lofty position, thrusting a banner of revolution into its hand at the same time. Unless one understands Marx's revolutionary political program, one cannot fully understand the reasons for his adopting the materialist concept of production.

c. Marx's Recognition of the Correspondence Between Income and Product.

Marx improved on Adam Smith in recognizing the identity of the income and product aggregates. He defined the "newly produced value" (value added) in income terms, as the sum of wages, profits, and rent, while defining it in product terms as the sum of consumer goods and net investment goods. He identified gross value as the sum of wages, profits, rent, and capital replacements and also as the value of the new product plus the value of capital replacement. In line with this, he recognized that national income can be measured by either the product or the income method, i.e., by taking the gross value of the total product less material expenses and capital replacement or by aggregating the incomes

(54) "The total working day of the laborer is divided into two parts. One portion is that in which he performs the amount of labor necessary to reproduce the value of his own means of subsistence. It is the paid portion which is necessary for his own maintenance and reproduction. The entire remaining portion of the working day, the entire surplus quantity of labor performed above the value of labor realized in his wages, is surplus labor, unpaid labor, represented by the surplus-value of his entire product in commodities (and thus by a surplus quantity of commodities), surplus-value, which in its turn is divided into differently named parts, into profit [profit of enterprise plus interest] and rent." Karl Marx, *Capital*, Kerr & Company, Chicago, 1909, vol. III, pp. 970-71.

derived from production.

Finally, Marx also noted that replacement of capital is never a part of income, but always flows back into the economic system in the form of capital.

The following quotations from his Das Kapital show his line of reasoning:

The value of the annual product in commodities, just like the value of the commodities produced by some particular investment of capital, and like the value of any individual commodity, resolves itself into two parts: Part A, which replaces the value of the advanced constant capital, and Part B, which presents itself in the form of wages, profit and rent....Part A...never assumes the form of revenue... [it] always flows back in the form of capital, and of the constant capital at that ...

In order to avoid useless difficulties, it is necessary to distinguish the gross output and the net output from the gross income and the net income. The gross output, or the gross product is the total reproduced product. With the exception of the employed but not consumed portion of the fixed capital, the value of the gross output, or of the gross product, is equal to the value of the capital advanced and consumed in production, that is, the constant and variable capital plus the surplus-value, which resolves itself into profit and rent. Or, if we consider the product of the total social capital instead of that of some individual capital, the gross output is equal to the material elements forming the constant plus variable capital, plus the material elements of the surplus product, in which profit and rent are materialized. (55)

(55) Ibid., vol. III, Chapter 49, pp. 978-79.

PB PN
YB YN

PV = B + R

PB = C_c + C_v + P_v

Finally, he restricted the term "net income" to the net return of the entrepreneur or, in other words, to surplus value. He criticized Adam Smith for applying the term "net income" to the sum of wages, profits, and interest as being inconsistent with the philosophy of the capitalist system that looks to the production of a "net income" for the capitalist only. He denied that society in the capitalistic system was getting any "net income" or that the production of it for society was the goal of capitalistic production.

d. Marx's Distinction Between Gross and Net Product.

Marx drew a clearer and more elaborated distinction between gross national income than did Adam Smith. His terminology was sometimes confusing, but his theory was consistent. He distinguished between "the net value of the product" and "the new value" or the "newly produced value" (the equivalent of what is nowadays generally spoken of as "value added"). The "value of the product" according to him was the sum of "the new value" and the replacement of used-up capital (today generally termed "depreciation"). Thus, the "value of the product," in his terminology, was equivalent to what we call today "gross national product" (GNP).

At the same time, Marx distinguished between what he called "gross product," which included all the duplicated values of raw materials, supplies, and other "intermediate products" (although he did not use the latter term), replacement of used-up capital, and the "new value" produced during the year, which he identified as consisting of wages, profit (including interest), and rent, which he called, somewhat misleadingly, "gross income of the society," and which we call "net national income."

The gross income is that portion of value and that portion of gross product measured by it, which remains after deducting that

$$Y_N = R$$

$$VNP$$

$$VA$$

$$VA + D = VNP$$

$$VNP = PNB$$

$$PB = \text{Depreciation}$$

$$VA = R_f + R_{ec}$$

$$YBS = YNN = VA$$

(portion of value and that portion of the total product measured by it, which replaces the constant capital advanced and consumed in production. The gross income, then, is equal to the wages (or to that portion of the product which is to become once more the income of the laborer) plus the profit plus the rent. On the other hand, the net income is the surplus-value, and thus the surplus product, which remains after the deduction of the wages, and which in fact, represents the surplus value realized by capital and to be divided with the landlords, and the surplus product measured by it....There is only this difference between the product of the individual capitalist and that of society: From the point of view of the individual capitalist the net income differs from the gross income, for this last includes the wages, whereas the first excludes them. Viewing the income of the whole society, the national income consists of wages plus profit plus rent, that is, of the gross income. But even this is an abstraction to the extent that the entire society, on the basis of capitalist production, places itself upon the capitalist standpoint and considers only the income divided into profit and net rent as the net income. (56)

In the latter portion of this statement, Marx misinterpreted the point of view "of the entire society" in a capitalistic system. Neither at the time he wrote nor subsequently did that society place itself "upon the capitalist standpoint" on the point at issue and consider "net profit and net rent as ...net income." Capitalist society as expressed in the writings of its leading economists always drew a distinction between the private income of the capitalists and the social income. The society viewed its income then, as it does today, as consisting of wages, interest,

and rent as well as profits. This may not represent the true "social dividend" in the sense of a net gain in economic welfare, but bare entrepreneurial profits are even less representative of such a gain and are not identified with the social dividend by any responsible members of capitalist society.

9. The Contrasting Treatments of the Two Concepts in the Present Century

Today, the division of allegiance between the two major production concepts is drawn along political lines. All nations and economists who are not followers of Marx's doctrine subscribe to the comprehensive production concept and build their national income estimates on its broader, more rational foundation. With the organization of the United Nations after World War II, and its entrance into the field of national income estimation, the comprehensive production concept achieved the status of an international standard.

National income analysis, organized around the comprehensive production concept, is being constantly refined, re-examined, and broadened to achieve greater theoretical consistency and more reliable techniques and to reflect more accurately the productive activities of our age. New breakdowns of national income are being developed to show not only its origin in the various branches of production and its redistribution among individuals and groups, but also its expenditure on various types of final consumption and investment products. A series of new income aggregates, varying in the degree of their "grossness" or "netness," are being introduced to permit a more diversified analysis of the operations of the national economy. Finally, a series of "sector" accounts and "input-output" analyses of production has been developed to show the monetary and product flows in the national economy and in

each of its parts. At the same time greater use is being made of national income estimates than ever before. Both governments and private groups have come to rely more heavily upon them in the formulation of their production programs and economic and financial plans.

All these developments have occurred within the framework of the comprehensive concept during the past half-century. By contrast, the progress made during the same period under the material production concept in elaborating national income theory or in perfecting its use in analysis has not been startling. The concept is essentially no different from what it was eighty years ago when Karl Marx adopted and altered Smith's original formulations. It still defines national income as it did then, as the value of annually created commodities, less duplication and depreciation. There has been no expansion of the concept, and no new breakdowns of national income have been introduced. The breakdowns are still limited to the "net value" of the output of the several branches of material production and to the distinction between current consumption and capital replacement and investment, and between the socialized and the nonsocialized sectors of the economy. The uses of national income estimates have probably been extended somewhat in the Communist countries in connection with their launching of long-range plans of economic development, but this is only a surmise, for there is not much published evidence on the subject. The quality of the statistics used in the preparation of the estimates must have been improved considerably, but even on this subject, information is sparse. (57)

(57) See Chapter 25, Sections 7, 8, and 12; Chapter 28; and Chapter 34, Section I-2 and II-10 through 15; also Jean Marzewski, *Role of National Accounts in Planned Economies of the Soviet Type* (in French), International Association for Research in Income and Wealth, Income and Wealth Series IV, London, 1955; and E. F. Jackson, *Social Accounting in Eastern Europe*, *ibid.*

The steady development of national income analysis in both theory and practice under the one concept, and its practical stagnation under the other, is not inherent in the nature of the concepts. The difference is directly related to the different degrees of freedom of thought in the countries involved. Had the development of the two concepts proceeded in the reverse manner, the material production concept taking root in the non-Communist countries and the comprehensive production concept in the Communist countries, the material production concept would probably have evolved into something more realistic and richer in content, while the comprehensive production concept, in the hands of the Communist countries, would probably have resulted in as rigid an analytical tool as the other is now.

10. The Keynesian Dynamic Approach

Any account of the development of national income concepts would be incomplete without mentioning the contributions J. M. Keynes and his followers have made. An appraisal of these contributions is difficult because they are so recent. Another fifty years or more may have to pass before their full impact on economic thought and on national income concepts and analysis becomes apparent. In the meanwhile any comment on the subject must necessarily be guarded.

Keynes (1883-1946) gave a new orientation to modern economics and in so doing also affected modern thinking in the field of national income analysis. His principal contribution lay in the distinction between variable or strategic factors and related or dependent subsidiary phenomena; and in a demonstration that by altering the size or direction of the first, government and private groups may alter the size and structure of the entire national income. Therein lay the substance of his discovery. Among the

strategic or independent factor, Keynes first included only four: volume of consumption, volume of investment (which together with the other forms the national income), quantity of money (bank deposits), and the interest rate. Later when, under the influence of the Great Depression and World War II, government finance had expanded tremendously in the economy, Keynes added two more strategic factors -- government spending and tax collections. He showed that the volume of employment at any given time -- a matter of deepest concern to the nation -- depended on changes taking place or being made in the size and direction of one or more of the strategic factors mentioned.

Although Keynes himself was not interested in statistics and was not particularly skillful in using them, his followers were. They used his theoretical approach in designing various models of national income, each based upon a different assumed volume of this or that strategic factor and each, accordingly, showing a different size and structure of national income. By selecting the model representing the situation that in their judgment was most likely to develop or was most desirable, Keynes's followers used these models either as forecasts of the future national income or as guides to future governmental and private group economic and financial policies and programs of action. This new approach, to which Schumpeter, Frisch, and others gave the name of "macro-economics" or "economic dynamism," has given a new meaning to the concept of national income. (58)

Historically, the Keynesian approach is linked to the dynamism of the physiocratic doctrine and of Quesnay's Tableau

(58) J. A. Schumpeter, op. cit., Part V, Chapter 5, "Keynes and Modern Macroeconomics." Schumpeter points out that Keynes was not actually original in this approach, as a number of other economists, both in England and elsewhere, were thinking along the same lines at the same time.

Economique, in which the size and structure of the gross national income of a preeminently agricultural country was shown to be capable of an infinite number of variations, depending on the size and manner of allocation of the "product net" -- the one strategic factor in this type of economy. So far as the future is concerned, the Keynesian approach paves the way for still further innovations in national income concepts and analysis, the exact nature of which it is impossible to predict at this time.