THEORETICAL FOUNDATIONS OF GOVERNMENT OWNERSHIP IN A CAPITALISTIC ECONOMY

DISSERTATION

Presented to the Faculty of the Graduate School of
The University of Texas in Partial Fulfillment of the Requirements

For the Degree of

Doctor of Philosophy

By

John Fagg Foster, B. S., M. Ed.

Austin, Texas

August, 1946

PREFACE

Someone has remarked that one of the most dangerous things a people can do is to talk one way and act another. I think that this dictum is true in the sense that in so far as a people does not understand what it is doing, it is apt to make mistakes. The peoples of the capitalistic economies always have condoned the government ownership of some enterprises, and at the same time they have talked generally as if government ownership were bad in itself.

There is a parallel situation in economic theory. So far as I know, almost all economists who have had occasion to discuss the matter have approved government ownership for some enterprises and disapproved it for others. And at the same time they have set forth a general theory which would seem to say that government ownership, as a category, is uneconomic. I have thought for some time that an inquiry into the problem of government ownership in a capitalistic economy not only should reveal something further in regard to the forces at play in a problem which the peoples of capitalistic nations have faced repeatedly but also should throw some light on the validity of the general theories as such.

I wish to acknowledge the consideration and attention which every member of the Graduate Faculty of the Department of Economics of The University of Texas has given me in the course of my studies which have played a great part in my thinking on this problem. Especially, I wish to thank Professors C. E. Ayres and R. H. Montgomery under whose direction I have made this study.

J.F.F

Austin, Texas
17 June, 1946

TABLE OF CONTENTS

NOTE: In the text below, pagination of the original dissertation is recorded in brackets [...].

CHAPTER I
INTRODUCTION

Throughout the development of modern capitalism, some economic enterprise has been government-owned. That is to say, in providing the means of life and experience, some of the items involved in the process have been owned and some of the processes have been carried on directly by bodies politic through their duly organized governments.

When capitalistic organization began to take recognizable shape as the general pattern of the economy, some economic enterprises already were established as government functions. And some of these enterprises have remained under government ownership while others have been shifted to private ownership. At the same time, economic enterprises which were currently owned and operated by private persons and firms have been shifted to public ownership; and some of these same enterprises have been shifted back again to private ownership. On each such occasion the problem of government ownership in a capitalistic economy has arisen anew. The problem has been a perennial one.

Not only have governments always owned and operated some economic enterprises, but this situation, as such, has never been regarded by economists as being incompatible with proper economic arrangement. No economist ever has taken the position that absolutely no economic enterprise should be government-owned [2] although the theoretical formulations of some economists might seem to dictate that position. From The Wealth of Nations through the whole of contemporary theory, allowance is made for the government ownership of certain economic enterprises. In the main body of theoretical development, as will be seen, this allowance has been treated more as a side issue or afterthought or even as a non-economic consideration than as an integral part of the main body of general economic theory. But the allowance always has been made.

Since the problem has recurred constantly and since the general principles of economic theory are presumed by people generally to give some logical basis for policy in regard to economic problems, recourse to economic theory has been taken by both proponents and opponents each time the problem has arisen, either in its inclusive form or in its specific application to an individual enterprise. The continued irresolution of this perennial problem, even among professional students of economics, prompted the present writer to examine the general principles of economic theory to see whether they offer any logical basis for solving the problem as it presents itself in a capitalistic economy. A reexamination on this score seems to be warranted by the importance of the problem and by the claim to generality on the part of the basic economic principles.

Although agreement is unanimous on the bare proposition that government ownership has a necessary and proper place in capitalistic economies, great diversity of opinion usually appears [3] when the alternative patterns of the ownership of a particular enterprise are brought into question.

Then the pertinent question becomes: What are the differences between the enterprises upon which there is disagreement? Are the differences purely “political,” or are there economic factors antecedent to the immediate political operations that specify the pattern of ownership? If there are antecedent economic factors, do they have any recognizable pattern? And if there is a visible pattern, what is the impellent relationship between the economic factors and the political factors?

Manifestly, all of the data related to these questions cannot be considered within the

limitations necessarily imposed on the present study. It is necessary therefore to select the available area of data that promises to be most remunerative in displaying evidences on the question. The area selected for the present study is composed of six enterprises which have become government-owned in the United States.

An examination of these data should be useful in furthering a positive solution of the problem of government ownership; for, if there is pattern to whatever differences are found to exist between enterprises which have become government-owned and enterprises which have remained privately owned, a theory of government ownership in capitalistic economy may be indicated. An inquiry into such differences may serve also as a referential check for economic theory in terms of general applicability.

[4] The present study, then, seeks an answer to the following question: What are the determinants of government ownership in a capitalistic economy?

Delimitation of the Study

It may be noted that the question for this study is framed so as to exclude the question of alternative economic systems. The study is not concerned with one economic system versus another for the entire economy. Rather, it is concerned with what determines a particular pattern of ownership for particular enterprises in a system in which there are numerous patterns of ownership and in which those patterns are changing. This is not to say that the study disregards the consequences to the remainder of the economy of the private or government ownership of a particular enterprise. Quite the contrary. The interdependence of the economy, especially the American economy, precludes the consequences of changing the pattern of ownership in one enterprise being restricted to that enterprise. But, again, this does not involve the question of alternative systems for the entire economy. If the problem in fact concerned alternative inclusive systems, then the problem under consideration in this study could not exist at all.

Restricting the study to the determinants of government ownership has several advantages. It avoids many complexities of the various ownership patterns which are constantly changing [5] and which overlap at many points. And, at the same time, it may serve as a case study in the general problem of ownership pattern. Ownership, as an institution, has developed so many variations that even to describe them in much detail would be beyond the possibilities of a single study. Of all the types of ownership the government-ownership category is probably the most nearly specific and definite. It denotes complete and exclusive legal control. Some degree of legal control is connected in any pattern of ownership but in no instance is it complete except when vested in a sovereign government.

Six enterprises are included in the present study. Their selection is based on the following criteria: (1) that they are clearly government-owned, (2) that data concerning them are available, and (3) that they represent as divergent physical processes as possible. Attention is focused on data which are common to all or most of the enterprises selected under the three listed criteria, and these data are considered in terms of any sort of pattern which they may present.

Organization of the Study

The organization of the study follows directly from what has been said in orientation. First, the main developments of economic theory are explored in terms of applicability to the problem at hand. Particular attention is paid to the consideration given directly [6] to the

problem by the major spokesmen of the various systems of economic theory, and their pronouncements on the problem are examined in view of the general theoretical systems for which they speak. The major theoretical patterns are organized under the following headings: (1) the classical development, (2) the underconsumption analysis, (3) the institutionalists, and (4) the contemporary complex.

The development following the lead of W. S. Jevons' innovation in value theory frequently is classified separately from the classical doctrine proper. This utility-based system of analysis usually has been called neo-classicism. In the present study, the neo-classical analysis is included under the first heading, the classical development. The reasons for this inclusion will become apparent in the context of the discussion.

The recent resurgence of the underconsumption theory requires that it be given consideration. This theory enters directly and indirectly into much of contemporary analysis. It has served directly as the basis for some government fiscal policy which has, in turn, had effects on the problem of government ownership. And some of its tenets enter importantly into analyses which cannot properly be classified as underconsumptionist. This is true especially of the general theory of the level of employment which has gained wide credence since 1936 and which has brought into fresh focus the whole problem of possible alternative control organization of wide areas of economic enterprise.

[7] The "institutionalists" are designated as a separate category in this study. They are given separate designation, not to identify a "complete" economic theory, but rather to allow facile reference for concepts that are pertinent to the present study. There is, as yet, no detailed, and certainly no complete pattern of analysis that may be said to be held in common by the theorists who are usually referred to as institutionalists. But this is not to say that there is, in this instance, no real basis for separate designation. Nor is it to say that, since there is not here a "complete" general theory, application to the problem at hand is inadvisable. On the contrary, the basic theoretical position of the founder of this "school" and the advancements that have been developed from that position are particularly significant to the working-out of the kind of economic problem under consideration in this study.

The contemporary complex of economic theory is such that classification of particular theories under the previous headings is not easy. Some contemporary formulations are clearly identifiable as specific continuations of a particular, inherited doctrine. But many of them evidence a mixed parentage. And some contemporary developments are so original in structure and content that they give strong promise of initiating separately identified schools of economic thought. Under the heading "the contemporary complex" an effort is made to identify specific continuations of the particular theoretical systems which already have been classified, and these continuations are considered in relation to [8] the problem of government ownership. The unclassified developments are searched for possibilities of the same application.

After economic theory is explored in the order outlined above, the study proceeds to the examination of a selected group of government-owned enterprises. These are (1) streets and highways, (2) harbors and waterways, (3) waterworks and sewage disposal, (4) schools, (5) forestry, and (6) housing. These enterprises are

very diverse in terms of the physical processes involved. The choice on this score is deliberate. In any event, a representative sample of government owned enterprises would necessarily include widely differing sorts of equipment and functions. The fact of diversity is therefore an important datum in itself. The sample is chosen so as to maintain fidelity with its universe in this regard.

It has been mentioned that the reason for examining these government-owned enterprises is to try to find pattern in the relevant data. Patterns of some sort should be suggested by the general theoretical systems and by the specific pronouncements on the problem by the spokesmen for those systems. The principles thus suggested should be kept in mind while considering the specific cases of government-ownership.

It should be remembered that the present study is a search for the general principles that are applicable to all cases of government ownership. An effort is made, therefore, to find an organizational pattern that includes all of the facts brought out in the study of actual cases of government ownership. [9] Beyond this, some consideration is given to whatever indications the present study offers regarding the character of general economic theory.

[10] CHAPTER II

THE CLASSICAL THEORY AND GOVERNMENT OWNERSHIP

It has been pointed out that governments always have owned and operated some economic enterprises. This situation presented no general theoretical problem until the advent of a general economic theory which seemed, at least on its face, to dictate the general policy of laissez faire. But after the advent of such a theory, the acceptance of any government ownership presented something of a problem in theory. And the unanimous acceptance of the government ownership of some economic enterprise presented a dilemma.

On the one hand, here were what purported to be the basic general principles of economic theory. Here also was the inescapable pattern of the interworkings of those principles. The assertions of generality and of foundation involved the claim that the principles were in some manner expressive of the inclusive and the continuing factors which determine the on-going of the economic process. And that pattern of the interworkings of the general principles, that general theory, seemed to spell out in unmistakable finality not only the propriety of laissez faire but also the inescapable and actual driving effect of the basic economic forces in that direction. The classical system of analysis will be seen, at least in its [11] earlier stages, to involve that pattern of theory.

On the other hand, here were the palpable facts that government ownership did exist and had always existed and that everyone, including the classical theorists, sanctioned the government ownership of some economic enterprise.

These two sets of circumstances presented the dilemma: how account for government ownership of economic enterprise, either in terms of proper policy or in terms of actuality, in view of a general theory which seemed to dictate the absolute

contrary in policy and the contrary tendency in fact?

This dilemma could be disregarded. But it conceivably could be resolved in only three ways: (1) the position could be taken that government ownership of any economic enterprise must be at the expense of the general efficiency of the economic process and that, therefore, no economic enterprise should be government owned;[1] (2) the theoretical formulation's claim to generality and to foundation could be abandoned and replaced with the restricted claim of applicability to non-government-owned enterprise only;[2] and (3) the general theory itself could be modified in whatever manner and degree necessary to include the principles that determine government ownership.[3]

[12] In the following discussion, the part played by each of these three alternatives will be considered in terms of its involvement in the relation between specific analyses of government ownership and the major developments in the body of general theory.

The Wealth of Nations

The development of the classical theory was the first widely recognized effort to make an inclusive and a coherent analysis of the economic process, to "lay bare the principles which underlie the working"[4] of the economy. It was thus the first to give explicit recognition to the notion that social phenomena are subject to scientific inquiry.[5] In this line of development, the first statement which could lay reasonable claim to presenting this inclusive analysis was An Inquiry into the Nature and Causes of the Wealth of Nations by Adam Smith.

Adam Smith's analysis, published in 1776, "was destined to be regarded as the fons et origo of economic thought by many subsequent generations."[6] His considerations furnished the [13] substance for and served as the immediate parent of the main body of the classical analysis. For this, Adam Smith has been called the father of economics. But this is not the sole evidence of his fertility. Many of his formulations have found ready use in heterodox theory,[7] and in some instances he indicated the key to the disproof and consequent abandonment of

---

[1] No economist has ever taken this position although some of them have altogether disregarded the problem.

[2] The implications to general economic theory of this position are considered in Chapter VI below.

[3] This alternative holds true both in the consideration of "what ought to be" and in consideration of "what is." The former, because of the universal and unanimous acceptance of government ownership as such; the latter, because of the universal and continuous existence of the fact of government ownership.

[4] Erich Roll, A History of Economic Thought, Prentice-Hall, Inc., New York, 1939, p. 142.

[5] Loc. cit.

[6] Ibid, p. 140.

[7] Some of these uses will appear in the discussions of the underconsumption, institutional, and contemporary analyses.

some items which he, at the same time, made integral parts of the classical theory.[8] Adam Smith's contributions have entered every school of economic thought. His place in the development of the science is preeminent.

The characteristics of Smith's treatment which have permitted its influence on so many different systems of analysis are the very characteristics which cause difficulty in any effort to outline the internal structure of its economic analysis. It is inconsistent in detail, and its inconsistencies frequently seem to arise from shifts in the meanings of words. Although some shifts are explicit and stated, the reader frequently cannot determine just which referent Smith had in mind. But the general structure of the theory and the relation between [14] that theory and the problem at hand are clear enough.

The outline which follows does not have the organizational order used by Adam Smith. It is arranged to give the content and sequence that brings into sharpest focus the structure of Smith's theory as it may apply to the problem of the present study. Only the barest central content is used, and some aspects of his theory are not even mentioned. Smith made many digressions and used extensive corroborative material that need not concern the present study.

The Wealth of Nations is divided into five books:[9] (1) of the Causes of Improvement in the productive Powers of Labour, and of the Order according to which its Produce is naturally distributed among the different Ranks of the People; (2) of the Nature, Accumulation, and Employment of Stock; (3) of the different Progress of Opulence in different Nations; (4) of Systems of political Economy; (5) of the Revenue of the Sovereign or Commonwealth.

In these five books, Smith tried to throw light on what constitutes the general welfare and on how the general welfare may be maximized. He identified the general welfare with "wealth" by which he meant the rate of real income, the annual per-capita production, or "all the necessaries and conveniences [15] of life which it (the nation) annually consumes."[10]

Explaining how the annual per-capita income is and may be maximized is the central content of the entire treatment.

Some students dissociate Smith's treatment of "what is" from his treatment of "what ought to be." But Smith himself made no such dissociation. He was considering the same central problem throughout. And that problem involved not only the principles governing the material provision of the "necessaries and conveniences of life" but also how to arrange policy so as to promote the most efficient operation of that process. For Smith, proper economic policy was a necessary disclosure of, and part of, understanding the inclusive principles of the

---

[8] Adam Smith, An Inquiry into the Nature and Causes of the Wealth of Nations, The Modern Library, New York, 1937, pp. 321-322. In this example, the wages fund is prescribed, and then it is pointed out that neither money nor wage goods are really accumulated. Another example (p. 65) is his designation of profits and rent as "deductions" from the production of labor.

[9] Adam Smith, op. cit., "Contents."

[10] Ibid., pp. lvii, lx, 238, 24l,321,419. Smith sometimes uses "wealth" to mean accumulated goods, e.g. p. 330.

economic process.

The first two books of Smith's treatment are an explanation of his general theory. The introductory statement begins by identifying labor as

> ... the fund which originally supplies it (the nation) with all the necessaries and conveniences of life which it annually consumes, and which consists always either in the immediate produce of that labour, or in what is purchased with that produce from other nations.[11]

Then, since labor is the original source of all wealth, the question becomes: what determines the produce of labor, or, what determines the general efficiency of the use of the [16] fund of labor? To this question Smith answers:

> But this proportion (ratio between population and aggregate consumers' production) must in every nation be regulated by two different circumstances; first, by the skill, dexterity and judgment with which its labour is generally applied; and, secondly, by the proportion between the number of those who are employed in useful labor, and that of those who are not so employed.[12]

The total produce of any nation obviously depends on the product of each unit of labor (the productive factor) and the number of units of productive labor. The next step, then, is to find (1) the determinants of the efficiency of each unit of productively employed labor and (2) the determinants of the number of such units.

The first factor, Smith decided, depends on the degree of the division of labor[13] which, in turn, springs from "the propensity to truck, barter, and exchange one thing for another."[14] But this increase in the efficiency of labor, even though it "is in consequence of" the division of labor, " is owing to" (1) increased skill because of the reduced number of operations per worker, (2) the saving of time by concentrating on one operation, and (3) "the invention of a great number of machines which facilitate and abridge labour."[15] The limiting [17] factors to an increase in the division of labor (and therefore in efficiency) are (1) the maintenance of an equal stock of provision, (2) the provision of a greater stock of materials and tools,[16] and (3) the size of the market. The latter depends on the perfection of transportation facilities and the density of

---

[11] Ibid., p. lvii.

[12] Loc. Cit.

[13] Ibid., p. 3.

[14] Ibid., p. 13.

[15] Ibid., pp. 7-10.

[16] Ibid., p. 260.

population.[17]

The second factor, the portion of the population engaged in productive employment, is found by Smith to be determined by the amount of accumulated stock. The quantity of accumulated stock is not only a factor in determining the degree to which labor specialization may be carried, it is also that which sets labor in motion. It constitutes the demand for labor. It is that with which labor works, and its quantity is therefore the major determinant of how large a portion of the population may be engaged in productive employment.[18]

Smith considers labor non-productive if it is engaged in the direct satisfaction of wants. It is productive only if it is engaged in the creation of that which enters the accumulated stock which, in turn, serves as the support of labor and as tools which labor uses in further production. Smith observes that, in the current [18] state of affairs, since most non-productive labor is purchased out of rent and profits, the ratio between the sum of rent and profits and the expenditures for replacing capital will reflect the proportion of the population engaged in non-productive employment.[19]

Now, since the accumulation of stock sets the limits to which labor may be specialized and since it determines how great a proportion of the population is engaged in productive employment, the next logical step is to find the determinants of the accumulation of stock.

Smith finds that the accumulation is founded in the self-love instinct and in that instinct's combination with foresight which results in parsimony or frugality.[20]

Improved exercise of these basic instincts is allowed through the "propensity to truck, barter, and exchange one thing for another." For,

> As soon as stock has accumulated in the hands of particular persons, some of them will naturally employ it in setting to work industrious people, whom they will supply with materials and subsistence, in order to make a profit by the sale of their work, or by what their labour adds to the value of the materials.[21]

[19] The reason for allowing the increased produce to become the property of any particular person is that

> He could have no interest to employ them, unless he expected from the sale of their work, something more than was sufficient to replace his stock to him; and he could have no interest to employ a great stock rather than a small one, unless his profits were to bear

---

[17] Ibid., Book I, chapter III.

[18] Ibid., Bk. II, Ch. III, but particularly p. 319.

[19] Ibid., 317.

[20] Ibid., pp. 321, 322, 324.

[21] Ibid., p. 48.

some proportion to the extent of his stock.[22]

Thus Smith finds that both private property and profits are not only founded in human nature but also are necessary to the accumulation of stock without which there could be no improvement in the wealth of the community beyond the very lowest primitive stages.

Then, since those who hold accumulated stock could have no interest to employ a greater stock unless thereby they be permitted to increase it, a necessary phase of the analysis is to determine how that particular employment of stock is brought about. Smith finds that it is brought about through the operations of the market. Since the wealth of the nation depends upon the accumulation of stock and since the accumulation of stock depends upon exchanging commodities, everything depends in large measure upon the efficiency of the market process. The market's driving force is the desire for gain, and its controlling factor is competition. Men offer their produce in the market in the hope of getting for it something offering greater advantage to them than the retention of their own produce. [20] But the receivers of their goods are doing the same thing and so no exchange is effected until both are satisfied, however reluctantly, on this score. The market not only offers exercise to the desire for gain, it also brings commodities into common view. The purchaser may choose to his best advantage. Then the only way an individual can increase his chances of gain is to submit better items or to increase the efficiency of the production of those items, and the only way he can increase his total receipts is to increase his production. Competition and the desire for gain force the maximum efficiency in terms of quantity and quality of commodities. Then anything that interferes with the profit motive or with competition interferes with the efficiency of the exchange process upon which the whole economic process depends.

Smith's analyses of money and price change none of this.[23] Money enters only because of the difficulties of extensive, direct barter. It serves only to account the real operations which are greatly expanded because of its use. Money serves merely as the "great wheel of circulation."[24]

Thus Smith can argue that good management "can never be universally established but in consequence of that free and universal competition which forces everybody to have [21] recourse to it for the sake of self-defense."[25] And it is on grounds like these that he concludes, after applying his analysis to the economic progress of different nations and systems:

It is thus that every system which endeavours, either, by extraordinary

---

[22] Loc. Cit.

[23] Ibid., Bks. I and II.

[24] Ibid., pp. 273, 276, 280.

[25] Ibid., p. 147.

encouragements, to draw towards a particular species of industry a greater share of the capital of the society than what would naturally go to it; or, by extraordinary restraints, to force from a particular species of industry some share of the capital which would otherwise be employed in it; is in reality subversive of the great purpose which it means to promote. It retards, instead of accelerating, the progress of the society towards real wealth and greatness; and diminishes, instead of increasing, the real value of the annual produce of its land and labour.

All systems of preference or of restraint, therefore, being thus completely taken away, the obvious and simple system of natural liberties establishes itself of its own accord. …. The sovereign is completely discharged from a duty, in the attempting to perform which he must always be exposed to innumerable delusions, and for the proper performance of which no human wisdom or knowledge could ever be sufficient; the duty of superintending the industry of private people, and of directing it towards the employments more suitable to the interest of the society. According to the system of natural liberty, the sovereign has only three duties to attend to; three duties of great importance, indeed, but plain and intelligible to common understanding: first, the duty of protecting the society from the violence and invasion of other independent societies; secondly, the duty of protecting, as far as possible, every member of the society from the injustice or oppression of every other member of it, or the duty of establishing an exact administration of justice; and, thirdly, the duty of erecting and maintaining certain publics works and certain public institutions, which it can never be for the interest of any individual, or small number of individuals, to erect and maintain; because the profit could never repay the expense to any individual or small number of individuals, though it may frequently [22] do much more than repay it to a great society[26]

In the above quotation, Smith states both his laissez faire[27] conclusion, and his principle of government ownership. He does not state how, or whether, that principle is derived from his general economic theory.

It will be remembered that Adam Smith's general theory involves the propositions: (1) that the productive process depends on the accumulation of the physical means of supporting labor and the accumulation of the physical equipment used by productively employed labor, and (2) that this accumulation can be carried forward only by exchange which is motivated by profit and regulated by competition. For, even though the individual seeks to employ his capital to his own advantage, the forces of the market necessarily lead him "to prefer that employment which is most advantageous to the society."[28] And, therefore,

---

[26] Ibid., pp. 650-51.

[27] Adam Smith does not use the term.

[28] Ibid., p. 421.

> The statesman, who should attempt to direct private people in what manner they ought to employ their capitals, would not only load himself with a most unnecessary attention, but assume an authority which could safely be trusted, not only to no single person, but to no council or senate whatever, and which would nowhere be so dangerous as in the hands of a man who [23] had folly and presumption enough to fancy himself fit to exercise it.[29]

Then, since all capitals originally were necessarily those of "private people,"[30] it follows that the employment of any capitals "can be trusted, not only to no single person (government agent), but to no council or senate whatever."

In view of this theoretical position, it would seem, off hand, that no allowance could be made for the government ownership of any economic enterprise. But Smith explicitly makes such an allowance on the basis that some enterprises "may frequently do much more than repay" their expense to the economy but can "never repay the expense to any individual or small number of individuals." Here, there are economic enterprises which are determined, and Smith thought properly so, by some other devices than the free market process. Here, there are allocations of capital, stocks of provisions and equipment, which are motivated, and properly so, by some other tenet than that the returns from sales "be sufficient to replace (the) stock."[31]

Here, indeed, are enterprises which violate every determinant of how all economic enterprise comes into existence. It would seem that such enterprises not only should not exist, but also that they could not exist. It is certain, on the basis [24] of Smith's general theory, that stocks so used could not return "much more" to the economy's accumulated stock than they withdraw from it. Clearly, Smith was involved in the dilemma indicated at the beginning of this chapter.[32]

It is in order, then, to examine his pronouncements on specific government-owned enterprises to see which, if any, of the three possible alternatives[33] he pursued in reconciling the contradiction.

The government-owned enterprises which are of interest in the present study are, in Smith's words, "chiefly those for facilitating the commerce of the society, and those for promoting the instruction of the people."[34]

Smith began by stating that government-owned enterprises which facilitate

---

[29] Ibid., p. 491.

[30] Ibid., p. 47-48.

[31] Ibid., p. 48.

[32] See p. 14 above.

[33] Loc. cit.

[34] Cf., p. 14 above.

commerce, "such as good roads, bridges, navigable canals, harbours, &c."[35] must increase with the general economic development of the society. He proceeded by pointing out that such enterprises can be supported by charges levied against those who directly receive the service or commodity and that thereby no burden is necessarily imposed on [25] the general revenue. He pointed out also that some such enterprises (e.g., coinage and post-offices) can thus gain a return sufficient for defraying their own expense and thus satisfy his principle that they return to the society more than their own expense. In the matter of charges for service, Smith was willing to deviate from the cost-of-service principle in order to have

> ... the indolence and vanity of the rich ... contribute in a very easy manner to the relief of the poor, by rendering cheaper the transportation of heavy goods to all the different parts of the country.[36]

Smith was concerned primarily with tax policy and administrative policy in relation to public enterprise. He pointed out that many governmental agencies have their origin in commercial enterprise, and he urged that they be carried on by the executive rather than granted to companies of merchants. He held this view even in those cases in which the agency is for the protection of a particular branch of trade because "the protection of any particular branch of trade is a part of the general protection of trade."[37] But he did not follow this through to the other aspects of particular trades which require a larger capital than can be provided by private partnership and where the risk, or whatever, is such that no expectancy of profit could be held without monopoly privilege. For these, [26] Smith was prepared to grant a temporary monopoly "to recompense them for hazarding a dangerous and expensive experiment of which the public is afterwards to reap the benefit."[38] In this instance, Smith seems to have abandoned his principle of government ownership. But even here, the abandonment is not in terms that follow from his general theory.

Smith realized that the joint-stock-company technique of organizing an enterprise does some violence to his general theory. He concluded however that such organization, without a granted monopoly, can work out in only four enterprises: banking, insurance, canals, and waterworks. The reason it can work out in those four instances is that the processes in each of them can be "reduced to strict rules."[39] Smith did not work out the possible connection between the

---

[35] Adam Smith, op. cit., p. 682.

[36] Ibid., p. 686-687.

[37] Ibid., p. 691.

[38] Ibid., p. 712.

[39] Ibid., pp. 713-716.

principles underlying what he considered the proper joint-stock-company enterprises and his principles of government ownership although he did discuss them in the same chapter. The two are grouped together in recognition that both are non-private in the sense upon which his general theory is founded.

Smith considered education from the same standpoint that he considered aids to commerce. He concluded that the closer education is kept to the competitive level, the more efficient it becomes. However, he thought that it could not be left to [27] private enterprise because the forces of the market would result in people entering productive employment at such an early age that they could not render their full possible complement to the economy.[40] On this point, it is not only the early age of employment and consequent lack of schooling that is concerned, there is also the deadening effect of the specialization of modern labor which precludes the diversity of activity that Smith considered the key to the high intellectual attainment of previous cultures.

In all of this there is no clue to how it was that Smith reconciled his principle of government ownership with his general theory. In none of his statements on particular government-owned enterprises is it even mentioned that there is disrapport between the two. He pursued none of the three possible alternatives. The present writer is persuaded that Smith was unaware of any such problem.

The Theory of Distribution

Of all the theoretical developments to which The Wealth of Nations was germinal, that which was to receive the widest credence converged on the theory of distribution.

After the appearance of The Wealth of Nations, there occurred three theoretical developments which were to furnish [28] some of the distinguishing characteristics of the next general formulation of economic theory. Thomas Robert Malthus first published his theory of population in 1798. Its central thesis was that population naturally and inevitably increased more rapidly than the means of subsistence. He elaborated the thesis and modified it somewhat in a book on the subject published in 1803.[41] In the latter publication he withdrew the inevitability aspect, but the central thesis that population tends always to press on the means of subsistence remained to be incorporated in an important way into the classical doctrine. The other of the two developments was the theory of diminishing returns in agriculture. The idea that additional quantities of capital and labor applied to a given land area will yield smaller returns than the previous application is implicit in the differential rent theory presented by Adam Smith[42] in 1776 and specifically stated the next year by James Anderson.[43] It was presented

---

[40] Ibid., pp. 716-740.

[41] Erich Roll, op. cit., p. 193.

[42] Adam Smith, op. cit., pp. 146-47.

[43] Lewis H. Haney, History of Economic Thought, The Macmillan Company, New York, 1936, pp. 292-293.

as a universal law by Edward West in 1815,[44] but it remained for David Ricardo to extend the principle and to [29] incorporate it into the body of general theory.

A third development between Adam Smith and Ricardo that entered importantly into the latter's formulation was the dictum that supply creates its own demand and that the aggregate supply and demand therefore are always equal. This is attributed by Ricardo to Jean-Baptiste Say.[45] But even without outside contribution it would necessarily evolve out of Ricardo's organization of his own theory.

These elements, together with a consistent and unified theory of valuation were used by David Ricardo to make a narrower and somewhat new formulation of the general principles. Ricardo himself did not consider directly the problem of government ownership. He therefore was not directly confronted with the problem which is the principle concern of this study. The organization of his theory is treated here very summarily only to indicate the basic theory from which later theorists worked in the classical line of development.

Many students have emphasized that Ricardo thought economics properly should be concerned with the laws determining the distribution of the aggregate income among the "three classes of the community," land owners, capitalists, and laborers. He says in the preface to his Principles that "To determine the laws which regulate this distribution is the principal problem [30] in Political Economy," and in a letter to Malthus he goes so far as to say that economics should be called "an inquiry into the laws which determine the divisions of the produce of industry amongst the classes who concur in its formation."[46] However, this is not necessarily to say that Ricardo claimed the purpose of the economic process was to divide income so as to maximize the benefits for any particular class. Whatever may have been his predilections on this score, he still considered that "to procure these gratifications ('the conveniences and ornaments of life') in the greatest abundance is the object in view."[47] His concern was with finding the dynamics of the "simple and obvious system of natural liberties" which he assumed to be the entire economy. For, since the "produce of the earth--all that is derived from its surface" is divided among the three classes differently in the "different stages of society," if the determinants of that division could be correctly perceived, the dynamics of economic development would stand in view.

Ricardo began with the theory of value which he considered simply and always "embodied" labor. He refuses to follow Smith's abandonment of the

---

[44] Edward West, Essay on the Application of Capital to Land with Observations Showing the Impolicy of Any Great Restrictions of the Importations of Corn (Edited by J. H. Hollander), The John Hopkins Press, Baltimore, 1903.

[45] David Ricardo, The Principles of Political Economy and Taxation, (Everyman's Library Edition) E.P. Dutton and Company, Inc., New York, 1911, p. 192.

[46] Quoted by Erich Roll, op. cit., p. 178.

[47] David Ricardo, Principles, p. 195.

quantity-of-labor theory in accounting for non-labor incomes. His position is, in effect, [31] that Smith's labor-command theory is properly mere extension of the labor-cost theory into more advanced stages of the economy. For example, in referring to Smith's famous beaver-and-deer example, Ricardo pointed out that the labor required to provide the hunting instruments would necessarily enter into the determination of the exchange-value of the game[48]

> And it is here that his validification of returns to capital is founded in labor itself:
>
> All the implements necessary to kill the beaver and deer might belong to one class of men, and the labour employed in their destruction might be furnished by another class; still, their comparative prices would be in proportion to the actual labour bestowed, both on the formation of the capital and on the destruction of the animals.[49]

Capital then is expended, like anything else, in exchange for equal quantities of embodied labor. But this does not solve the problem of surplus value, or profit. If equal labor incorporated into capital equipment exchanged for equal labor in the items secured to replace it, how could capital equipment ever be increased?[50] Subsequently, attempts have been made to resolve this dilemma by allowing the value of labor to vary (as Ricardo himself allowed it to vary) over time and between countries and thus to permit the present exchange-value of labor incorporated in capital equipment produced in the past or in [32] another country to exceed the exchange value of labor currently incorporated in its replacement.[51] This would work out through the differences in the degree of durability of capital assets which introduce deviations from the labor-cost determination of exchange-value. But, even here, the deviation would be occasioned by the necessity to include profits on the more durable asset over a longer period. This would return the problem to where it started.[52] But Ricardo's primary concern was with what determines the proportionate incomes of the economic classes, and so by assuming profits he managed to disregard the violence done to his labor-cost theory of wages by the implied explanation of surplus value. Thus, for his purposes, assumption was more acceptable than explanation.

Wages, in the Ricardian analysis, are determined by the labor-cost of the maintenance and replacement of labor, the quantity of labor required to provide the sustenance of labor. Wages, therefore, depend on the marginal productivity of labor

---

[48] Ibid., p. 13-14.

[49] Loc. cit.

[50] This became the point of departure for Marx in his refinement and extension of Ricardo's theory of value.

[51] David Ricardo, op. cit., pp. 8, 18-20, 54-55.

[52] Ibid., p. 20.

in agriculture. Therefore, since real wages per capita remain constant because of the Malthusian law of population, the portion of the total "produce of the earth" that goes for wages depends on how far the margin is extended in agriculture.

Ricardo defined rent as "that portion of the produce of the earth which is paid to the landlord for the use of the [33] original and indestructible powers of the soil."[53] It, as such, has no labor cost and is therefore not determinable in the open market process, and it cannot enter into price. It is determined by the differential in the natural productivity of different tracts of land. As more and more land is brought into cultivation, the difference in fertility, and other advantages, of different tracts of land increases. The portion of aggregate income that goes to landlords is determined by the degree of extension of the margin in agriculture.

All economic classes, according to Ricardo, receive incomes which, as portions of the aggregate income, are determined by the extension of the margin in agriculture. The portion received by laborers and that received by landlords increase as the margin is extended; the portion received by capitalists decreases on the same count. But neither profits nor wages contribute anything to rents[54] by virtue of an extension of the margin. It is rather that the "stage of society" is thereby determined. And by the "stage of society" Ricardo seems to mean the proportion of capital to the total of all the productive factors. He concludes that society will gradually approach a static state because, at bottom, there is no way to prevent an extension of the margin in agriculture. [34] Capital accumulation will stop because the increase in the labor cost of food will raise the cost of labor and thus reduce profits below what is necessary to motivate investment; labor, having human procreational tendencies, will press the agricultural margin to the limits set by land area and techniques of cultivation; rent will increase and landlords will receive the income allowed by the extremest difference in the "original and indestructible" productive powers of different soils. Economics became known as the "dismal science."

The Ricardian theory is an analysis of how the income of an economy is distributed among the economic classes by the open-market process operating under conditions of full and free competition. It may not properly be said to arrive at the laissez-faire position. Rather, it assumes that position.

Ricardo properly refrains from trying to solve an economic problem like government ownership the existence of which is not even permitted by his general economic theory.

Utility and Cost

Smith founded the classical theory in what he considered the inclusive and continuing factors, the basic factors, of the economic process. He brought the analysis forward to the market process. Ricardo started with the market process as his basic datum, and he extended the analysis to what seemed to him the logical conclusion of that process. He started with the market [35] process and he ended

---

[53] Ibid., p. 33.

[54] Ibid., p. 64.

with the market process.[55]

The classical theory at this stage of development proved to be vulnerable to criticism. The difficulty involved in founding profits and rents on the labor theory of value was apparent. And it was for this reason that both those who favored the policy indications of the theory and those who opposed them focused their attention on this point.

The utility theory of value had been given considerable attention by continental theorists, especially by J. B. Say, who, like Ricardo, found his point of origin in The Wealth of Nations. But Say was also influenced by the utility theorists.[56] The first mature effort to reconcile these two developments in value theory and to incorporate the reconciliation into the body of general theory was made by Nassau Senior.

Senior is of particular interest in relation to the present study because of his close personal familiarity with the problem of policy in government enterprise and because of his influence on the trend of development of the classical theory. His membership in the faculties of the University of Oxford and his service in various government agencies prompted his extended consideration of possible foundations in economic theory for policy in government enterprise.

[36]Senior began his outline of economic theory by defining economics as "the Science which treats of the Nature, the Production, and the Distribution of Wealth." He immediately proceeded to define wealth as

> ... all those things, and those things only, which are transferable, are limited in supply, and are directly or indirectly productive of pleasure or preventive of pain; or, to use an equivalent, expression, which are susceptible of exchange; (using the word exchange to denote hiring as well as absolute purchase) or, to use a third equivalent expression, which have value; a word which, in a subsequent portion of this Treatise, we shall explain at some length, merely premising at present that we use it in its popular sense, as denoting the capacity of being given and received in exchange.[57]

Already, it is clear that Senior must explain the nature and the production of wealth as well as the distribution of wealth in terms of the market process. For, although wealth equals value which will be explained to have foundations in realities beyond and antecedent to exchange, it is "an equivalent expression" to "susceptibility of exchange" which, in turn, is determinable in the process of trading one thing for another - that is to say, the market process.

Senior's analysis avoids the difficulties resulting from the Ricardian labor theory of value by placing both labor and capital in the common category, real costs.

---

[55] Ricardo will not prove to be peculiar in this regard.

[56] Abbe Condillac published his Le Commerce et le Gouvernement consideres relativement l'un a l'autre in 1776.

[57] William Nassau Senior, An Outline of the Science of Political Economy, Farrar and Rinehart, Inc., New York, 1939, p. 6.

The exertion of labor and the abstinence involved in investing are common in terms of some sort of disutility. The real costs are [37] psychological.

Senior holds that these real costs determine supply in the sense that they are the obstacles which must be overcome in order to bring about production. But demand, too, is psychological. It is the degree "in which its possession is desired."[58] It "denotes no intrinsic quality in the things which we call useful; it merely expresses their relations to the pains and pleasures of mankind."[59] And, since those relations are reciprocal, the demand for "an object of purchase or hire is principally dependent on the obstacles which limit its supply."[60] The balance of forces toward which free exchange directs production is that between a progressively increasing psychological cost and a progressively decreasing utility.

This view of real costs offers no explanation of rent beyond payment for "having permitted the gifts of nature to be accepted."[61] But it purports to offer the continuing and inclusive principles which explain the economic process in terms of the real costs of the productive factors. That is, it purports to explain "the Nature, the Production, and the Distribution [38] of Wealth."[62] The prospect of pleasure or avoidance of pain, (utility) causes men to overcome the obstacles to production (exertion of labor and abstinence). The stage of perfection to which this process is carried depends upon the degree of freedom of the interplay of that pattern of motivation. The interplay of that pattern of motivation is the market process. Therefore, the measure of perfection of the economic process is the degree of freedom in the market.

Senior personally was never able to convince himself that laissez faire was the proper position. Although he understood quite well that government enterprise "is not conducted on the principles which regulate ordinary exchanges,"[63] he also observed that, in such enterprises as the postal service,

> The labour of a few individuals, devoted exclusively to the forwarding of letters, produces results which all the exertions of all the inhabitants of Europe could not effect, each person acting independently.[64]

Observations of this kind evidently led Senior to some appreciation of their

---

[58] Ibid., p.15.

[59] Ibid., p. 7.

[60] Ibid., p. 17.

[61] Ibid., p. 90.

[62] Ibid., p. 6.

[63] Ibid., p. 75.

[64] Ibid., p. 74.

disrapport with the implications of his general theory. For his later writings evince a strenuous and extended effort to discern correctly the relation between economics and those enterprises which produce and distribute things "which [39] are transferable, are limited in supply, and are directly or indirectly productive of pleasure or preventive of pain," but which, nevertheless, are "not conducted on principles which regulate ordinary exchanges."[65]

After considering the military and police service and the postal service as examples of how the coordinated attention and efforts of a few persons accomplishes results which are far beyond what could be accomplished by many more people acting independently, Senior states that "The utility of government depends on this principle."[66]

But this is the very principle upon which the economic efficacy, or the utility, of the open market depends. Senior explains that capital is accumulated most efficiently through the free market process because that process gives free play to the motives for accumulating productive instruments and organizing labor in the most efficient manner. As an example of the results of this accumulation and organization he cites the cotton industry:

> We doubt whether all the exertions of all the inhabitants of the Roman Empire, if exclusively directed to the manufacture of cotton goods, could, in a whole generation, have produced as great a quantity as is produced every year by a portion of the inhabitants of Lancashire; and we are sure that the produce would [40] have been generally inferior in quality.[67]

This principle might be used to estimate the utility of any or all enterprise. But it cannot serve to designate government ownership as distinct from private ownership unless it is better served by one form of ownership than the other. In regard to the postal service, Senior seems to have in mind the idea that here there are principles involved that allow the government ownership of the enterprise to accomplish the higher efficiency. But he does not specify what those principles are.

In his essay on "National Capital: Its Nature, Magnitude, and Purposes,"[68] Senior considered at some length the efficiency of capital employed in national defense and the capital devoted to popular education. In regard to the national defense and police service, he concluded simply that it cannot be done in any other way.[69] That essay gives no reason for education being a governmental

---

[65] See, e.g., William Nassau Senior, Industrial Efficiency and Social Economy (original mss. arranged and edited by S. Leon Levy, Henry Holt and Company, New York, 1928.

[66] Ibid., p. 70.

[67] Ibid., p. 70.

[68] William Nassau Senior, Industrial Efficiency and Social Economy, vol. I, pp. 182-196.

[69] Ibid., Vol. I, p. 190.

institutions, merely pointing out that, "Next to security, education is the great promoter of wealth."[70] But his further essay on "National Education and Popular Amusement" states that the main duty of government "is to give [41] protection – protection to all, to children as well as adults, to those who cannot protect themselves as well as those who can."[71] The latter essay states also that those who require the protection of education most are those who cannot or will not pay for it, for "it is only the educated who are aware that education is necessary."[72] When Senior was working with the Committee of the House of Commons on the Poor Law Relief of England, he was "astonished" and "grieved" because of an implied denial by a conferee that the state must assume "all the responsibilities (to a child) from which absolute inability discharges the parent."[73] However, that implied denial could well have rested on the proposition that the unobstructed market process most efficiently works out the maximum efficiency of those things having to do with wealth, and that since education is a "great promoter of Wealth," it properly should be left to the market process. And the conferee could have stated Senior's Political Economy as proof of that position.

Senior's latter essay indicates that individual inability to pay for a necessary item is basis for the government provision of that item. His position at this point may be set in contrast to his general position stated in connection with his [42] treatment of general theory where he says:

> The essential business of government is to afford defense; to protect the community against foreign and domestic violence and fraud. Unfortunately, however, governments have generally supposed it to be their duty, not merely to give security, but wealth; not merely to enable their subjects to produce and enjoy in safety, but to teach them what to produce and how to enjoy; to give them instruction how to manage their own concerns, and to force them to obey that instruction.
>
> Unfortunately, too, the ignorance and folly with which they have attempted to execute this office have been equal to the ignorance and folly which led them to undertake it.[74]

This same general position is reiterated in his essay on "Government Regulation of Home and Factory Conditions."[75] In the second paragraph of that

---

[70] Ibid., vol. I, p. 193.

[71] Ibid., vol. II, p. 337.

[72] Ibid., vol. II, p. 339.

[73] Loc. cit.

[74] William Nassau Senior, Political Economy, p. 176.

[75] William Nassau Senior, Industrial Efficiency and Social Economy, Vol. II, pp. 301-311.

essay it is stated that the government's effort to protect individuals from the evils of poverty (as one of the ways of trying to make men happy) is not only likely to fail but is "liable to produce results precisely the reverse of those intended by the legislator ..." But in the same essay, after considering housing and factory legislation Senior concluded that

> ... it is the duty, and therefore the right, of a government to take any measures, however they may interfere with the will of individuals, which are conducive to the general welfare of the community.

Nevertheless, the previous proposition "refuses to a government the power of judging whether it can beneficially interfere to [43] protect the laborer against himself."[76] However, Senior found that

> The only rational foundation of government, the only foundation of a right to govern and of a correlative duty to obey, is expediency - the general benefit of the community. It is the duty of a government to do whatever is conducive to the welfare of the governed. The only limit to this duty is its power. And as the supreme government of an independent state is necessarily absolute, the only limit to its power is physical or moral inability. And whatever it is its duty to do it must necessarily have a right to do.[77]

> The principle of general welfare, without limit, seems to be the rule intended here. And this rule seems to allow any degree or kind of adjustment in the institutions which the situation might indicate. But if Senior's general theory of the economic process has been correctly interpreted, then this principle could not stand on it. Whatever other grounds it may be founded on are not stated. This principle, like that of efficiency, cannot serve as a principle by which government enterprise can be distinguished, as such, either in terms of proper arrangement or in terms of historical fact. Either or both principles may be used as the standard of judgment by which either or both of the alternative patterns of ownership may be judged. But in that case the principles would be those which determine that any given enterprise is more efficiently [44] carried on, or is more contributory to the general welfare, under one pattern of ownership than under the other. To this question, Senior's general theory gives only the answer private ownership, and his special considerations of the problem offer no alternative principles.

Refinement and Application

Five years before the appearance of Senior's Political Economy, John Stuart Mill published five essays which were later combined into a book entitled

---

[76] Ibid., Vol. II, p. 307.

[77] Ibid., Vol II, p. 302.

Essays on Some Unsettled Questions of Political Economy.[78] In the last of these essays he stated that economics itself cannot be a collection of practical rules but that "unless it be altogether a useless science, practical rules must be capable of being founded upon it."[79] Mill's later work in economics maintained this idea of the functional importance of economic theory. His Principles, which appeared seventeen years later, included in the title, and in the treatment proper, "Some of Their Applications to Social Philosophy." His purpose was to incorporate into the general theory all the developments which had occurred since Adam Smith and to apply the refined theory to the major problems of society. The [45] general theory had been refined and society had changed, and so the time was proper for a new treatment based on the Smithian conception of the necessary relation between economic theory and economic policy.[80]

Mill identified the same triad of productive agents that his predecessors had used. Although he retained the distinction between productive and non-productive labor, he agreed with Say that labor "is not creative of objects, but of utilities."[81] The identification of productive labor is then placed on the susceptibility of accumulation of the utilities which the labor produces. But then the productive category is obscured by including labor "which yields no material product as its direct result, provided that an increase of material products is its ultimate consequence."[82] It is the accumulation aspect that counts and it is this aspect which determines wealth. Wealth is "any product which is both useful and susceptible of accumulation."[83] Capital is "a stock, previously accumulated, of the products of former labor."[84] [46] But this is not sufficient identification because:

> The distinction, then, between Capital and Not-capital, does not lie in the kind of commodity, but in the mind of the capitalist - in his will to employ them for one purpose rather than another; and all property, however ill adapted in itself for the use of labourers, is a part of capital, so soon as it, or the value to be received from it, is set apart for productive reinvestment.[85]

---

[78] John Stuart Mill, Essays on Some Unsettled Questions of Political Economy , Longmans, Green, Reader, and Dyer, London, 1874.

[79] Ibid., p. 124.

[80] Ibid., "Preface to First Edition."

[81] Ibid., p. 45.

[82] Ibid., *p. 48.*

[83] Ibid., p. 47.

[84] Ibid., p. 54.

[85] Ibid., p. 56.

Labor is productive if it produces something that is not directly consumed. What is not directly (or forthwith) consumed is that which the capitalist decides to invest. Therefore it must follow that productive labor is that which produces capital.

Mill thus presents production as being carried on within the limits set by physical facts but nevertheless as being controlled essentially by those persons who decide whether a commodity is to be consumed or invested. Thus, although he opens his discussion of distribution by stating that "The laws and conditions of the production of wealth partake of the character of physical truths" and are not subject to arbitrary decision whereas distribution can be arranged at will,[86] he already has prescribed the key to the distribution pattern. Since the deciding function of the capitalist depends upon the institutional pattern and since that function is central to the whole of the productive process, it must necessarily follow that the theory of distribution will have to mold itself in [47] conformity with that same institutional pattern. And so it does.

Mill pointed out that competition is not the only controlling influence in the market process. Custom also enters.[87] But "only through the principle of competition has political economy any pretension to the character of a science."[88] "Wages, then, depend mainly upon the demand and supply of labour; or, as it is often expressed, on the proportion between population and capital."[89] Profits depend on the cost of labor and the productivity of labor, on "the ratio which the remuneration of the labourers bears to the amount they produce."[90] Rent is determined by the "difference between the unequal returns to different parts of the capital employed on the soil" which in turn depends on the intensive and extensive margin in agriculture. It must be paid, like profits and wages, in order to have use of the productive factor for which it is payment.[91]

This distribution is carried out through the market process. Because of the forces of competition, the exchange value, equalizing supply and demand, drive both supply and demand [48] into equilibrium at the cost of the marginal unit which is composed of labor and capital only.[92] Competition is the controlling factor, and it can operate most effectively in the open market. Mill does not presume to add anything to the theory of value or exchange-value. On that matter he states:

Happily, these is nothing in the laws of value which remains (1848) for the

---

[86] Ibid., pp. 199-201.

[87] Ibid., p. 242.

[88] Loc. cit.

[89] Ibid., p.343.

[90] Ibid., p, 419.

[91] Ibid., p. 422.

[92] Ibid., pp. 478-480.

present or any future writer to clear up; the theory of the subject is complete.[93]

Mill's general theoretical treatment arrives at the same position as that of his classical predecessors, and his procedures are the same. But his treatment extends much further than either Ricardo's or Senior's. It includes inquiries into possible applications which he treats along with the general theory and in which he introduces so many deviations from the structure of his general theory that it is difficult to see the intended connections.

The fifth book of Mill's Principles of Political Economy is devoted to the influence of government. It begins by designating two sets of categories for government functions: (1) necessary and optional, and (2) authoritative and unauthoritative. Under "necessary" are included all those functions which are universally and unanimously recognized as proper to government; under "optional" are included "those respecting [49] which it has been considered questionable whether governments should exercise them or not."[94] The functions involving mandamus or injunction are included in the "authoritative" category; those not involving mandamus or injunction are included in the "unauthoritative" category. The last-named kind of intervention is indicated:

> ... when a government, instead of issuing a command and reinforcing it by penalties, adopts the course so seldom resorted to by governments, and of which such important use might be made, that of giving advice, and promulgating information; or when, leaving individuals free to use their own means of pursuing any object of general interest, the government, not meddling with them, but not trusting the object solely to their care, establishes, side by side with their arrangements, an agency of its own for a like purpose.[95]

Mill stated five objections which may be offered to this sort of government function:[96] (1) the increase in taxation or, if otherwise financed, the expenditures; (2) the danger of increasing the government's power and influence; (3) the increase in complexity of government resulting in greater inefficiency; (4) the lack of responsible interest as compared to private owner; (5) the loss of the educational effects of "labour, contrivance, (and) self control" which the difficulties of private enterprise stimulates. These five objections are given as the principal reasons for the general position of laissez-faire. [50] "Every departure from it unless required by some great good, is a certain evil."[97]

Each of these reasons for objecting to government enterprise can be related to the general theory expounded by Mill. (1) The general theory classifies government functionaries as unproductive labor. Then it follows that an increase in government receipts,

---

[93] Ibid., p. 436.

[94] Ibid., p. 796.

[95] Ibid., p. 942.

[96] Ibid., pp. 942-950.

[97] Ibid., p. 950.

whether by taxation or otherwise would be a diminution of the stock comprising the demand for productive labor. (2) Increasing the government's power and influence offers some danger to that "originality of mind and individuality of character which are the only source of any real progress." They are crucial in the economic process because they serve toward progress through the decisions to invest which are the controlling factor in determining the character and rate of progress. (3) The increase in complexity requires an accountancy system that could be replaced by the costless forces of the market, and it loses the advantage of isolated attention which is one form of the division of labor. (4) The general theory of markets involves the idea that the highest interest and application results from the responsibility of ownership because it involves the possibility of greater disutility in case of failure. (5) The educational effects of labor, contrivance, and self-control are greatest in the market-determined process [51] because it is there that the greatest rewards are given for their development and the greatest penalties are imposed because of their lack.

Mill found, however, that there are instances in which these objections are absent or are overruled by counter-considerations of still greater importance.[98]

First, there are some things which are of unmistakable utility but of which "the demand of the market is by no means a test." Education, asyla for insane persons, and the protection of lower animals are offered as examples. The reasons the demand schedules in the open market cannot reflect the real values in such instances are : (1) the consumer cannot be qualified to judge the utility of the commodity; (2) the consumer cannot pay the cost; or (3) the consumer has no discretion in the matter because he is under the autocratic power of another person.

Second, there are instances in which no amount of discretion and wisdom is sufficient. Contracts in perpetuity are cited as an example. Whenever the period of an agreement exceeds the possible foresight of parties thereto, there is economic ground for avoidance.

Third, some enterprises, if left to spontaneous agency, can be carried on only by an arrangement which divorces control and ownership. This results in the infringement of those forces [52] in the free market, on the supply side, which drive the supply and demand equilibrium into the optimum position. Joint stock companies are the example given here. Wherever ownership is driven to a degree of remove from control which exceeds the influence over government policy exercised by the citizen, then the enterprise is better carried on by the government.

Fourth, enterprises in which monopoly cannot be avoided require that the government either operate them directly or so control them that the "profits of the monopoly may at least be obtained for the public." In these enterprises,

> There are the expenses without the advantages of plurality of agency; and the charge made for services which cannot be dispensed with, is, in substance, quite as much compulsory taxation as if imposed by law; there are few householders who make any distinction between their "water-rate" and their other local taxes.[99]

---

[98] Ibid., pp. 953-979.

[99] Ibid., p. 962.

Fifth, there are cases in which the interests of individuals cannot be brought into play except through concerted action which cannot be effective unless "it receives validity and sanction from the law." The point in view here is that the state should provide assurance of collective action in case the immediate and future interests of the individual can be made to correspond with the interests of society only if everyone else will act in the same manner and if, at the same time, the interests of the individual under separate choice dictates a different course. The examples offered in this instance are [53] labor legislation reducing the hours of labor and the Wakefield colonization policy in which land could not be appropriated beyond the quantity which the individual can cultivate.

Sixth, instances in which the purchaser is not the consumer may require that the government function as the purchaser. The example discussed in this connection is public relief in which the upper limit of public relief is set at less than the lowest market wage in order to regain the compulsions of the labor market. Another example that generally falls in this subsidy category is colonization. The basic reason that colonization requires subsidy is the difficulty of enforcing labor contracts where unoccupied land is freely available. The probability of the laborer absconding to free land makes the return on transporting him to and establishing him in a new land very doubtful. But the economic benefits of transferring people from congested countries to areas where the other productive agents are abundant may be very great. Still other examples of activities requiring subsidy are scientific research and the "cultivation of speculative knowledge." The reason that these activities cannot be brought to fruition in the market is that their benefit is received by society at large and falls so insensibly on individuals that they are not activated in the ordinary market sense.

> It may be said generally, that anything which is desirable should be done for the general interests of mankind or of future generations, or for the present interests of those members of the community who require external aid, but which is not of a nature [54] to remunerate individuals or associations for undertaking it, is in itself a suitable thing to be undertaken by government: though, before making the work their own, governments ought always to consider if there be any rational probability of its being done on what is called the voluntary principle, and if so, whether it is likely to be done in a better or more effectual manner by government agency, than by the zeal and liberality of individuals.[100]

All of these categories Mill considered as exceptions to the general laws of the market. But he was clearly aware that "There are not a law and an exception to that law -the law acting in ninety-nine cases, and the exception in one. There are two laws ..."[101] Accordingly, it is not at all clear that Mill considered the laws of the market real laws. In the introduction to his exposition of the theory of distribution, he states:

> Whatever mankind produce, must be produced in the modes, and under the conditions, imposed by the constitution of external things, and by the inherent properties of their own bodily and mental structure.[102]

The laws of production would remain even if social arrangements did not permit exchange.[103]

But his expressed view of distribution is quite the contrary. He held that distribution "depends

on the laws and customs of society." It "is a matter [55] of human institutions solely."[104] Evidently, Mill would not claim generality for the laws of the market. Evidently, there were other laws having to do with part of the economic process.

[100] Ibid., p.977.

[101] John Stuart Mill, Essays, p. 124.

[102] John Stuart Mill, Principles, p. 199.

[103] Ibid., p. 435.

[104] Ibid., p. 200.

But it has already been pointed out that Mill's unalterable laws of production involve the distinction between "capital and not-capital" as being in the "mind of the capitalist" because it is there that the productive or non-productive use of a commodity is decided. And the capitalist's decision rests on his estimation of the probability of whether the greater gain will accrue to him by consuming the stock directly or allocating it to support others in return for their further production. This basic characteristic of human nature is, then, fundamental to production. But this is the very same fundamental human trait which finds expression in the market process and which forces, through competition, the optimum arrangement of the productive factors except in so are as it is interfered with. Evidently, Mill did not realize that his theory of production prescribed the pattern of his theory of distribution and that to abandon the claim of generality in the latter necessarily involves the abandonment of the same claim in the former.

It cannot be claimed, then, that Mill's principles of government ownership are founded in either his theory of distribution or his theory of production. The connections [56] between each of his reasons for laissez-faire and his general theory have been pointed out, and his general theory is seen to serve as foundation for those reasons. But his principles of government ownership must stand on other grounds. And Mill himself has said that unless economics "be altogether a useless science, practical rules must be capable of being founded on it."[105]

Marginal Utility

After 1821, the theory of value was shifted more and more from its foundation on labor measured in time units toward a new foundation which could have no units of measurement outside the market process. The Ricardian theory had been able to proceed from its real value determinant to the market process by assuming that the unrestricted market placed the various kinds of labor in the same array-distribution in price terms that they would display in labor- content terms. This imputation permitted Ricardo's distribution theory to claim some foundations in an obvious fact. But it also furnished critics with a referent which could be measured, or at least comprehended, in non-price terms and which could therefore serve as a basis for checking the results of his analysis. Utility, as the non-price referent for value, avoids this difficulty.

[57] Utility had been a part of the Ricardian theory only in so far as it was a necessary property of valuable items. It was not the sufficient, determining factor. In 1871, Stanley Jevons began his presentation of general economic theory with the statement that "value depends entirely upon utility."[106] He then defined value as "ratio of exchange."[107] In defining utility he agreed with Senior that "Utility denotes no intrinsic quality in the things which we call useful; it merely expresses their relations to the pains and pleasures of mankind."[108]

Thus, ratios of exchange, prices of commodities, are entirely dependent upon their relation to the pains and pleasures of mankind, which are the "ultimate objects of the Calculus of Economics." To state the character of this dependence requires the idea of marginal utility which is derived from the law of diminishing utility. The utility of additional units of a commodity

---

[105] John Stuart Mill, Essays, p. 124.

[106] W. Stanley Jevons, The Theory of Political Economy, Macmillan and Company, Ltd., London, 1931, p. 1.
[107] Ibid., pp. 76-83.
[108] Ibid., p. 43.

progressively decreases as consumption is extended. And it is here that scarcity enters the picture, for, the more there is of a commodity in the market, the less is the utility of the last- added unit. When the supply is extended to where the utility of the last is no more and no less than the utility [58] of the last unit of any other commodity, the market is in equilibrium. This is the situation toward which the forces of the market drive ratios of exchange because as long as equilibrium does not exist, an increased utility can be gained by exchanging the comparatively excessive commodity for the comparatively scarce one and by shifting production from the former to the latter. The desire to maximize utility thus drives the productive factors toward supplying[109] the commodity which is being exchanged for the greater utility and thus toward equilibrium, not only in the consumer's goods market but also between various kinds of capital goods and between the factors of production.

Then how is this optimum situation reached? The obvious answer must be to avoid obstructing or interfering with the natural forces that bring it about. Those forces spring from basic human nature and cannot even be estimated except through their results in terms of price in an unobstructed competitive market. Jevons' general theory, like those of his predecessors, clearly dictates laissez faire.

By accepting the utility theory of value and by restricting the theory of valuation to the free-market determination of ratios of exchange, Jevons clearly placed himself in the [59] position of being unable to find logical warrant for government ownership either in his general theory of economics or on any other basis. This is necessarily the case since there could be no way to determine the efficacy of the government ownership of any economic enterprise except that the enterprise be called into being and operated in accordance with the conditions of a free and competitive market, in which event there could be no occasion for government ownership because the greatest utility would be forthcoming already.

But Jevons felt impelled, whatever the basis, to offer some criteria for the unavoidable problem. He specified the conditions under which government operation of an enterprise could be successful.

> There appear to be four conditions under which state management of any branch of industry is successful:
>
> 1. The work must be of an invariable and routine-like nature, so as to be performed according to fixed rules.
> 2. It must be performed under the public eye, or for the service of individuals, who will immediately detect and expose any failure or laxity.
> 3. There must be very little capital expenditure, so that each year's revenue and expense account shall represent, with approximate accuracy, the real commercial success of the undertaking.
> 4. The operations must be of such a kind, that their union under one all-extensive government will lead to great advantage and economy.[111]

In The State in Relation to Labor, Jevons goes even further on general grounds. He states: [60] ... we can lay down no hard and fast rules, but must treat every case in detail on its merits. Specific experience is our best guide or even express experiment where possible, but the real difficulty consists in the interpretation of experience. We are reduced to balance conflicting probabilities of good and evil.[112]

[109] Ibid., p. 64. Jevons uses supply in this instance to mean “rate of supply.”

[110] Ibid., p. 146.

[111] E. W. Eckard, Economics of W. S. Jevons, American Council on Public Affairs, Washington, 1940, p. 102.

[112] Erich Roll, op. cit., p. 374.

As far as economic value is concerned, Jevons' general theory is a theory of how merit is attained in economic enterprise. His general theory is based explicitly on the specific identification of economic merit as the maximization of utility. And that same theory is a demonstration of how utility is maximized in the open, free, competitively determined market.

Synthesis

After 1871, marginal utility became the accepted basis of economic analysis. And by way of depending on price in a free and competitive market as the only measure of marginal utility, general economic theory became simply an analysis of competitive price. However, problems which were obviously economic and which could not be resolved on the basis of competitive price demanded attention. If economic problems were not to be considered in terms of economic theory, then in what terms were they to be considered? If general economic theory could not at least serve as the foundation of practical rules, then what purpose could it serve?

This impasse stimulated many students to reconsider the [61] general theory in terms of possible application. The reexamination of general theory combined with the study of many practical problems produced its most definitive results in the work of Alfred Marshall.

The equilibrium concept is central to Marshall's analysis.[113] He tried to identify the forces at work in the economic process and to determine the situations toward which the interaction of those forces drives. The situation is one of equilibrium when the forces at play have no directional resultant.

Marshall accepted the utility theory of value in a modified form[114] but he was very careful to emphasize that market ratios of exchange do not reflect numerical ratios of the various utilities and disutilities involved in the economic process.[115] It is rather that real utilities and disutilities are the forces behind exchange ratios. They are the motivating influences which cause man to act toward equilibrating the market impact of their respective marginal units. It is only the market impact of the marginal unit of any item that is brought into equilibrium with the market impact of the marginal unit of every other item.

[62] In Marshall's analysis, decreasing utility and increasing disutility operate through demand and supply respectively to drive prices toward the point which equilibrates the market force of the two. In reference to the instantaneous picture, this equilibration requires little demonstration. In fact, in the instantaneous view, it is a truism; whatever forces cause exchange ratios to be what they are have most assuredly expended their causal action in so far as they affect exchange ratios that exist at the moment. Supply and demand are thus set up as the sole determinants of exchange rations where the supply is given and the current demand schedule does not have time to shift in response to other influences.[116] This is called the "market price." It is the value on the demand schedule that corresponds to the quantity of the given supply. Costs, real or money, can have no influence on the immediate situation because they cannot affect either the existing supply or the demand schedule.

---

[113] Alfred Marshall, Principles of Economics, Macmillan and Company, Ltd., London, 1938, pp. 323-324, 345.
[114] Ibid., pp. 18, 61-62, 348, 815-820.
[115] Ibid., pp. 14-18, 92-93 n. [116] Ibid., pp. 334-336, 348-349, 372, 378.

But if time is introduced into the equation, then costs play a determining part. In the "short period," which Marshall designated as the projection of the period within which the factors of production may be assumed to remain constant, the supply is driven toward, but does not reach, that quantity for which the corresponding value on the demand schedule just [63] equals the marginal supply price based upon current costs of production.[117]

In the "long period" which Marshall defined as long enough to permit adjustment of the factors, the forces of supply and demand are able to work out their balance in terms of almost full adjustment to the revised costs of the factors and their reciprocal influences by expected demand schedules.[118] This period is constituted by the longest-range expectancies that entrepreneurs can ordinarily be expected to make. Because of the full opportunity to reorganize, to adjust labor force and plant, and to duplicate or renew plant, the supply, under competitive conditions, is pushed to the quantity which can be sold at the supply price based upon costs under the extended readjustment. The free play of demand and supply in the market is assumed to effect these adjustments.[119] Under these conditions, the supply price is that which just covers the costs of the factors. This is Marshall's normal price. It is the price toward which adjustments are made. The factor costs which comprise the normal price are the prices that bring into equilibrium the market values of the disutilities involved in providing the factors at the margin and the market values of [64] the utilities which their receipts can procure.

This equilibrium price is never reached in the real economy. Particularly constant is the disequilibrium between various industries. The failure to attain general equilibrium results from imperfections in the market process and from the changes which occur over Marshall's fourth and longest time period.[120] The changes involved here are those of the basic economic data such as population, knowledge, techniques of production and distribution, general enlightenment, and institutional structure. These changes are not controlled by the market forces but they have the effect of continuously changing the points of equilibrium toward which market values are driven. These changes specify the secular trend in exchange ratios.

It is extremely difficult to give a short, sequential statement of Marshall's general theory. His extension of the marginal utility analysis, through the use of time periods, to account for changes over time and his synthesis of the cost and the utility analyses were productive of many concepts which have been important tools in subsequent developments. But just what Marshall considered to be the effects of those concepts on his general theory is not clear. Some of those concepts, for example "consumers' surplus,"[121] "substitution of the [65] factors,"[122] the non-diminishing utility of money,[123] "representative firm," and decreasing-cost industries[124] are still being debated. And some of those concepts have been used in efforts to discredit his general theory.

---

[117] Ibid., pp. 374-375. [118] Ibid., pp. 363-380. [119] Ibid., p. 341.

[120] Ibid., p. 379. [121] Ibid., pp. 124-133. [122] Ibid., p. 371.

[123] Ibid., p. 793. [124] Ibid., pp. 805-812.

So far, however, as there is today any generally accepted body of economic doctrines, it is largely what Marshall made it.[125]

It is impossible to say whether or not Marshall considered his general theory to be general in the sense that it was an analysis of the inclusive and continuing factors in the economic process. He clearly stated that the analysis must be restricted to the market process but that that process cannot be thought of as displaying the real economic operations. But he also stated that the market analysis can divulge the "normal" situation only when supply and demand are allowed free and unrestricted play. These clearly are claims to generality. The latter statement together with the dictum that the real values' only available common measure is price and that therefore we are forced to use price "with all its defects" would seem to dictate the laissez-faire position. For, if economic realities can be seen only through price, and if price permits [66] the observation only when demand and supply have free play, then it would seem that there would be no way to judge an economic operation if those conditions did not prevail. But Marshall concluded on this point:

> There is no general economic principle which supports the notion that industry will necessarily flourish best or that life will be happiest and healthiest when each man is allowed to manage his own concern as he thinks best.[126]

Marshall used the tools of his price analysis to formulate at least one principle of government ownership.[127] He thought also that government undertakings "have a great future" but that they must develop "efficient control" devices.[128] Just how he thought that an enterprise which was not dependent on the only available manifestation (price) of its real transactions and which could not operate under the only conditions (free play of supply and demand) in which that manifestation could emerge is not stated.

The present writer is convinced that Marshall did not in fact believe that non-price determinations in economic matters are either invalid or unavailable in any sense, even in the sense and to the extent in which price determinations were both valid and available, although his statement of the [67] general theory specifically includes that dictum. Marshall frequently relied on non-price determinations in analyzing economic problems. For example, he relied on non-price determinations in his analysis of the propriety of the government installation and operation of certain enterprises in which the cost schedule is always above the price schedule.[129]

In the example just cited, Marshall indicated that if the consumers' surplus in an enterprise is greater than the aggregate loss in money, the enterprise should be installed and financed through taxation. This same principle applied also to enterprises in which the cost schedule is below the demand schedule only at some points.[130] Even though these industries could be operated, with monopoly restrictions, at a profit, the maximization of consumers' surplus above aggregate costs may be attained by setting price below cost in case the increase

---

[125] Paul T. Homan, Contemporary Economic Thought, Harper and Brothers, New York, 1928, p. 195.

[126] Quoted by Paul T. Homan, ibid., p. 209.

[127] Alfred Marshall, Principles, pp. 489-492, 805-812.

[128] Ibid., p. 304. [129] Ibid., p. 489-492. [130] Ibid., pp. 363-380.

in the consumers' surplus continues to be more rapid than the increase in costs beyond the point where costs equal demand price.

But the consumers' surplus is identified as the difference between the aggregate of what consumers must pay for the whole supply of an item and the aggregate of what they would have been willing to pay if the supply were introduced into the market unit by unit but if sales were not effected until the given [68] supply had been reached.[131] This identification of consumers' surplus does not violate Marshall's general tenet that the incidences of the various forces can be estimated only in price or exchange-ratio terms. And it does not violate the general tenet that such estimations of the real forces antecedent to price can be made only by observing the free play of supply and demand, for much experiential evidence of the shape of cost and demand schedules in some enterprises can be determined under those conditions. But it does violate, strangely enough, the general tenet that price cannot be conceived as representing any actual comparisons between the real forces which are antecedent to price. Consumers' surplus is presented here as a real situation, as a situation having substance beyond the market process itself.

It is this disclaim of congruity between price and real economic process combined with the positive claim that price is the only available criterion in that process - it is this combination that distinguishes Marshall's general theory. It permitted him to disavow the ethics of hedonism and at the same time to continue using the conceptual tools of the hedonistic calculus. In the instances in which the maximization of consumers' surplus serves as one of Marshall's criteria for government ownership, the disavowal of the ethics of hedonism [69] is abandoned. In this case, it is precisely the maximization of psychological satisfaction that gives warrant to the criterion.

Marshall found another criterion of policy regarding government ownership in the relation between risk and expected returns. The schedule of the supply price in certain industries may be raised completely beyond the demand schedule because of the risks that must be borne by the entrepreneur. If the supply price minus profits in such enterprises places the cost schedule below the demand schedule, then a real gain could be made if the undue risks could be eliminated. Situations of this sort are most apt to arise in developing particular natural resources which are isolated or are otherwise situated in relation to the business community so that entire communities must be built in order to bring the enterprise into being. On this point, Marshall concluded:

> In those exceptional branches of production for which a government can found a manufacturing town without incurring the risks that a private firm would incur in a similar case, that point of advantage may fairly be reckoned as an argument for Governments undertaking those particular businesses.[132]

This principle, if applied to its extremest possibilities, would result in the government establishing and operating any and every enterprise where the cost schedule could be calculated to fall, at any point, below the demand schedule and where private [70] firms have not begun operations. The fact that private firms have not begun operations would be, in light of Marshall's general theory, proof that the private entrepreneur's supply price is above the demand schedule. But, on the other hand, Marshall's general theory indicates also that if the demand schedule could be determined to be above the cost schedule, then the supply price would, for that reason, fall to or below the

demand schedule and the required private investment

---

[131] Ibid., pp. 124-133.

[132] Ibid., pp. 443-444.

would be forthcoming. In relation to Marshall's general theory, this principle of government ownership seems to be equivalent to saying that gains could be made by the government ownership of certain enterprises under certain conditions but that when those conditions could be determined, private enterprise would appear and the conditions no longer would prevail.

In the case of "indivisible" undertakings, or "natural monopolies" Marshall decided that government control generally is preferable to government ownership.[133] His reason for this decision is that control could still allow for the initiative that accompanies ownership. But in some such enterprises,

> ... when a large use of rights of way, especially in public streets is necessary, it is doubtless generally best to retain the ownership, if not the management of the inevitable monopoly in public hands.[134]

[71] At this point, two conditions are prescribed that may render a monopoly a proper subject of government ownership: first, it must be an inevitable monopoly, and second, it must have very wide patronage.

This idea is founded outside his general theory on both counts. The inevitability that Marshall had in mind is a function of the physical situation. It is determined entirely outside the market process. The "large use" aspect too is a matter of physical requirement, not a matter of price. What Marshall seemed to be thinking of in this connection is the physical necessity of large use," as in the case of streets where the use is not a matter of price, even in the monopoly sense of the word.

Marshall's idea of monopoly itself is not founded in his general theory. In the case of an inevitable monopoly, the unity of organization and operation is a matter of physical situation; in the case of an unnatural monopoly, the unity of organization and operation is the effect of special privilege maintained either by law or forceful concealment. The relation of monopoly to Marshall's general theory is its contrast with that theory. His theory of monopoly price may be contrasted with his theory of competitive price in that the latter displays forces working out toward an equilibrium that is "normal," that is in some sense an optimum situation; whereas the former displays forces working out toward an equilibrium that is abnormal, that is in some sense sub-optimum. The abnormality aspect does not lie in [72] the notion that in monopoly the free play of the forces behind supply and demand do not have complete effect, for they play as strongly and as effectively there as they do in competition, and their effects are even more definitive. The difference is that those forces work out an ill effect in monopoly and a good effect in competition. There is no way to avoid the identity of competition and normalcy and efficacy in Marshall's general theory.

It is not surprising, then, to reflect that Marshall, like his predecessors, founded each of his determinants of government ownership outside his general theory.

Marshall was much concerned with the real economic problems of his day;[135] and he was not a little directly engaged in efforts to solve them.[136] In his exercise over those concerns and in those practical engagements Marshall evidently was convinced that his "general principles" were not in fact statements of the continuing and inclusive factors in the economic

---

[133] Alfred Marshall, Memorials of Alfred Marshall (edited by A. C. Pigou), Macmillan and Company, Ltd., London,

1925, pp. 274-277.
[134] Ibid., p. 339. [135] Ibid., passim.
[136] Alfred Marshall, Official Papers., Macmillan and Company, Ltd., London, 1926, passim.

process although his statement of the theory seems to require that interpretation. He had a strong sense of institutional evolution, and he evidently held the notion that the classical general theory, though stated as fundamental, was not more than a special theory containing no continuing fundamentals. [73] In a letter to Professor C. R. Fay, concerning the period 1920-1970, he wrote: "I believe it will make my poor Principles, with a lot of poor comrades, into waste paper."[137]

[137] Alfred Marshall, Memorials., p. 490.

The Classical Theory and the Principles of Government Ownership

The general economic theory which had its first inclusive statement in The Wealth of Nations and its last reformulation in Marshall's Principles has been, from 1776 up to now, the most widely accepted view of the basic economic principles. That is to say, through the period during which the living-getting process has been clearly and separately designated as an area of inquiry, the classical statement of the pattern of the continuing and inclusive factors in that process has held the widest credence.

All of the theorists in the classical line of development have encountered the problem of government ownership. Almost all of them have given the problem extended consideration, and many of them have made their pronouncements in the form of guiding principles. Not one of these principles has been found to be based in the classical theory at any stage of its development. Without exception, the classical theorists have had to go outside their general theory to find basis for their solution [74] of a constant and an important economic problem. A recapitulation of their principles of government ownership follows.

Adam Smith's general principle of government ownership is incorporated in his statement that the government has

> ... the duty of erecting and maintaining certain public institutions, which it can never be for the interest of any individual, or small number of individuals, to erect and maintain; because the profit could never repay the expense to any individual or small number of individuals, though it may frequently do much more than repay it to a great society.[138]

Evidently, something other than receipts from sales is intended in Smith's statement because he includes education, highways, streets, harbors, etc. under this principle. He seems to have had in mind some other basis for determining the repayment to society. But it also includes coinage and the postal service which, he observes, may, and frequently do, gain a profit directly from the sale of services.

In speaking of the general category of non-private enterprise, Smith states that they must be capable of being "reduced to strict rules." But he does not give this as sufficient reason for non-private control.

Senior's general principle of government ownership is simply that if an enterprise can be more efficiently organized and operated by the government, then it should be government-[75]owned.[139]

[138] Adam Smith, op. cit., pp. 650-651.

[139] William Nassau Senior, Political Economy., p. 74.

John Stuart Mill extended and organized the analysis of government ownership. His principles are as follows: (1) If the consumer of the enterprise cannot exercise his full discretionary function, either because of inability to understand or inability to pay or because he is under the autocratic authority of another person, the enterprise is properly subject to government ownership. (2) The government should interfere in those cases in which no amount of wisdom and discretion is sufficient to foresee the ultimate consequences of a decision in contract. (3) If the necessary organization of an enterprise divorces ownership and control beyond the degree of divorcement between the citizen and the government, then the enterprise is better carried on by the government. (4) Natural monopolies should be government-owned or they should be controlled to attain the same results. (5) The government should do whatever is necessary to give effect to the individual's recognized interests if those interests require collective action and if that action cannot be effective without government action or forceful sanction. (6) If the service is highly valuable but does not activate individuals toward purchase because its benefits are indirect and evenly spread, the enterprise is properly a government function.

W. Stanley Jevons developed no principles of government [76] ownership but he stated four conditions "under which state management of any branch of industry is successful." They are as follows: (1) invariable and routine-like nature, (2) complete public information and observation of the operation, (3) low capital expenditure, and (4) inherent character that permits incorporation into the government to "lead to great advantage and economy."

Alfred Marshall's principles of government ownership grow directly out of his theory of consumers' surplus and his theory of monopoly. His first principle is that if the maximization of consumers' surplus over total costs involves setting price below cost, then the enterprise is a fit subject of government ownership. Marshall's second principle is that monopolies which are inevitable and which have a very wide patronage may be proper subjects for government ownership. He preferred regulation rather than government ownership of monopolies. The distinguishing factor he had in mind seems to be simply the physical situation which requires constant and very wide patronage of an indivisible industry.

The general frame of reference in terms of which the problem of government ownership was approached changed considerably from 1776 to 1890. Adam Smith framed his treatment generally in terms of the effect that the government ownership of a particular enterprise would have on the remainder of the economy. Senior and Mill approached the problem from the standpoint of the comparative efficiency of the government-[77]ownership of a particular enterprise and the private ownership of the same enterprise. Mill, especially, sought out the factors that would indicate the superior internal efficiency of the government ownership of a particular enterprise. Marshall considered the problem of comparative internal efficiency. But his primary concern was the development of analytical tools which would be useful in studying the problem from the standpoint of maximizing utilities under the assumption that internal efficiency could be achieved under either form of ownership.

78]CHAPTER III

HETERODOX THEORIES OF GOVERNMENT OWNERSHIP

The Underconsumption Analysis

During the century in which the classical theory was being developed into its present form, the Underconsumption analysis held the attention of very few economists. It received its initial inclusive statement at the hands of Thomas Robert Malthus soon after the appearance of Ricardo's Principles, and it was maintained in essentially its original form until the depression of the 1930s forced economists to reconsider the general idea which distinguishes the underconsumption analysis.

That general idea is that the free market does not work out full use of the factors of production. The classical theory has been seen to incorporate the dictum that an unrestrained, competitive market results in all-out production under conditions of full employment of all the factors. That dictum is disputed by the underconsumption theory.

The underconsumption theory's claim to generality lies in the same assumption which serves the classical theory in that regard. Both theories assume that the market process, and therefore the economic process, can be explained in terms of price alone. They differ only in that they offer different [79] explanations of how the economic process works out through price.

Malthus offered his theory as a dissent from the more prevailing Ricardian view. The latter, he observed, is unable to explain the run of the facts. In this regard, he said:

> It is not favorable to the science of political economy, that the same persons who have been laying down a rule as universal should be obliged to found their explanations of most important existing phenomena on the exceptions to it.
> .....
> Though in reality such an event forms no just objection to theory, in the general and proper sense of the term; yet it forms a most valid objection to the specific theory in question, as proving it in some way or other wrong;...[140]

Malthus began his analysis by restricting the study to the "value in exchange" of material objects[141] and by explaining that the use of money as a common unit of account permits the study to proceed in terms of price.[142]

The exchange value of any commodity is determined at any time, and therefore at all times, by the relation between the demand for and the supply of that commodity.[143] Costs can enter the picture only in so far as they can affect either or both demand and supply. But costs themselves are determined by [80] relative demand and supply,[144] and so it remains that

> ... the relation of the supply to the demand is the dominant principle in the determination of prices whether market or natural, and that the cost of production can do nothing but in subordination to it, that is, merely as it affects the ordinary relation which the supply bears to the demand.[145]

The inquiry then properly becomes an effort to determine the prices of the factors of production. In other words, what determines the effective demand for and the supply of land, labor, and capital?

---

[140] Thomas Robert Malthus, Principles of Political Economy With a View to Their Practical Application, The International Economic Circle, Tokyo, 1936, p. 11.

[141] Ibid., pp. 21-49. [142] Ibid., pp. 54-55. [143] Ibid., p. 61-69.

[144] Ibid., pp. 74-77. [145] Ibid.,p. 72.

In Malthus' analysis, rent is defined as the

> ... portion of the value of the whole produce which remains to the owner of the land, after all the outgoings belonging to its cultivation, of whatever kind, have been paid, including the profits of the capital employed, estimated according to the usual and ordinary rate of the profits of agricultural capital at the time being.[146]

The demand for land is different from that for other factors in that it is maintained by the propensity of the population to increase as the means of subsistence increases. The use of land which can produce more than the subsistence of the cultivators thus can demand in the market not only the supply of labor which is necessary to cultivate the land but also the additional supply of labor which has increased of its own accord.[147]

[81] The supply of land is fixed by nature and is thus unavoidably limited. But it cannot be manipulated by the owner as in the case of ordinary monopolies. And the demand for its produce is determined by that produce itself, through human reproduction which also distinguishes land from ordinary monopolies.[148] Thus the demand for and the supply of land maintain the price of its use above cost in most instances. But, at the same time, its exchange value is kept in conformity with its use value, its value in maintaining the labor required to produce its use value.[149]

In Malthus' Principles, wages are defined as "the remuneration to the labourer for his exertions."[150] Wages, like the other factors, are determined by supply and demand. The supply of labor is a function of agricultural production. The demand for labor is "the quantity and value of those funds which are actually employed in the maintenance of labour."[151]

Profits are defined as that portion of the national revenue received by the capitalist for the use of his capital. They consist of "the difference between the value of a commodity produced and the value of the advances necessary to produce [82] it ..."[152] The limit below which profits cannot fall is the productivity of the "last capitals employed upon the land."[153]

[146] Ibid., p.136. [147] Ibid., pp. 142-143, 162. [148] Ibid., pp. 146-147.

[149] Loc. cit. [150] Ibid., p. 217. [151] Ibid., p. 234.

[152] Ibid., p. 262. [153] Ibid., p. 271.

The actual profits, however, are determined by the "varying value of the produce of the same quantity of labour on the same quantity of capital ..."[154] And this varying value of the produce of capital depends on the abundance of capital, "including the funds for the maintenance of labour," as compared with the abundance of "the labour which it employs."[155]

Then, since the "abundance of labour" is given by the law of population, the analysis requires a theory of capital formation so that the required comparisons can be made.

Malthus agreed with the classical analysis that capital formation can come only from savings.[156] But he contended that savings are, as such only one half of the supply-demand picture. The other side is "effectual demand." He pointed out that investment is made only in the prospect of profits from the eventual produce.[157] Then the actual rate of investment depends upon the maintenance of effective demand for the [83] eventual produce. This demand cannot come entirely from wages, for, if wages were equal to the total produce, there would be no profits. And the difference cannot come out of profits because there would then be no savings. The difference could come only from non-productive expenditure. Therefore, the only way to insure continued effective demand, and thereby profits, would be to maintain a large, non-productive expenditure.

In all of this there is implied the inequality of savings and investment. On this matter, Malthus stated:

> Almost all merchants and manufacturers save, in prosperous times, much more rapidly than it would be possible for the national capital to increase, so as to keep up the value of the produce.[158]

It is not clear whether Malthus meant that effective demand would fail only if saving exceeded investment or that all profits require equivalent non-productive expenditure. His statement seems to shift from one view to the other.

But, in any event, the actual open-market process is pictured as inherently incompatible with all-out production. Periods of prosperity bring on depression.

Because of his view of the disrapport within the free-market process, it is to be expected that Malthus would not support the laissez-faire, position. In this connection he pointed out that the government cannot avoid the necessity of taxation and that even this requirement makes it "impossible [84] for a government strictly to let things take their natural course."[159] But Malthus' primary concern was with demonstrating the necessity of a large non-productive" expenditure such as could be made by landowners, and so he did not go into the matter of other avenues of non-investment expenditures beyond mentioning them as possible aids. His theory could serve merely as the point of departure for alternative programs.

---

[154] Ibid., p. 276.
[55] Loc. cit.
[156] Ibid., p. 314, 326.
[157] Ibid., p. 324.
[158] Ibid., p. 400.
[159] Ibid., p. 16.

The underconsumption theory as propounded by Malthus is concerned with the problem of the level of employment. His approach to that problem was made through the idea of "gluts" or over-supply, the idea that goods are produced which cannot be sold. This idea involves the necessity of disproving Say's Law, because if supply creates its own demand, then without doubt no such thing as an over-supply could possibly exist. The underconsumptionist approach to that attack is through an effort to disprove Adam Smith's dictum that what is saved is as readily spent as what is consumed, "and nearly in the same time too, but by a different set of people." For, if all receipts from sales were spent as rapidly as received, and if the expenditure on capital investment preceded the sales of the eventuating commodities, then quite obviously there could be no production in the aggregate which could not be sold in the aggregate. Say's Law would hold. The analysis therefore came [85] to be founded on the inequality between savings and investment.

Proceeding from excess savings to failure of effective demand remained the sequence in the underconsumption analysis of the level of employment until 1936. During that time, Malthus' distinction between landed capital and industrial capital was dropped, and with it the argument for high rents. But the analysis continued to rest, at bottom, on the idea that savings exceed investment.

In 1936, John Maynard Keynes published a somewhat different analysis of the same general problem in terms of the market determinants of the level of employment. In the General Theory of Employment, Interest, and Money, Keynes outlined his problem somewhat as follows:[160] (1) The rate of both real income and money income depends on the level of employment. (2) The rate of consumption varies in the same direction as the rate of income, but at a lower rate. (3) The rate of net income is the sum of the rate of sales of investment goods and the rate of sales of consumers' goods. (4) Therefore, at any given level of employment, there must be a rate of investment equal to the difference between the rate of income and the rate of consumption. (5) Therefore, the level of employment depends upon the propensity [86] to consume and the rate of investment. (6) But the rate of investment depends on the relation between the marginal efficiency of capital and the rate of interest. (7) Therefore, the level of employment depends on the propensity to consume, the marginal efficiency of capital, and the rate of interest.

The propensity to consume at any given level of income depends on what Keynes called certain "objective factors" and certain "subjective factors."[161] The objective factors are such things as changes in government fiscal policy, changes in money wage-rates, and windfall changes in capital values. The subjective factors are characterized as precaution, foresight, calculation, improvement, independence, enterprise, and pride and avarice. Social, government, and business institutions are influenced by prospective expansion of investment, safety in emergencies, etc.

Keynes came to the conclusion that the propensity to consume at any given level if income is a fairly stable factor, at least for the reasonably short view. It varies noticeably with changes in the level of income but is comparatively stable for any given level of income.[162]

The marginal efficiency of capital is defined as

> ... that rate of discount which would make the present value of the series of annuities given by the returns [87] expected from the capital-asset during its life just equal to its supply price.[163]

[160] John Maynard Keynes, The General Theory of Employment, Interest, and Money, Harcourt, Brace and Company, New York, 1936, pp. 27-32.
[161] Ibid., pp. 89-95, 107-110. [162] Ibid., pp. 110-112. [163] Ibid., p, 135.

As long as this rate of return exceeds the rate of interest, the entrepreneur has a real motive for extending his purchases of the capital asset. But the extension of investment in any capital asset reduces its marginal efficiency and so ultimately brings it into approximate equality with the rate of interest. The investment-demand schedule then is the schedule of investment which brings the marginal efficiency of capital into equality with the rate of interest.

The rate of interest is not the same thing as the marginal efficiency of capital although equilibrium is established only when they have the same numerical rate-value. The rate of interest is defined as the price paid for the use of money; it is that price which brings into equilibrium the demand for and the supply of money.[164] Thus it is in contrast with the classical theory which conceives interest to be the price which equilibrates the demand for and the supply of savings. Keynes reasoned that since interest is the price paid for parting with liquid control over money, and since all money is held by someone all the time, interest obviously is the price which brings the liquidity preference into equality with the quantity of money. Interest equilibrates the demand [88] for and the supply of money. The supply of money is determined by banking policy and by government fiscal policy; the demand for money is motivated by the need of cash for transacting business, the desire for security, and the desire to gain, if opportunity occurs, by being in the immediate possession of cash.[165]

The propensity to consume, the marginal efficiency of capital and the rate of interest are thus independently determined. They, in combination, determine the level of employment. And the level of employment may be at any point between starvation and full employment. There is thus no way for the marginal disutility of working to be brought into equilibrium with the marginal productivity of labor except by accident or by controlling one or more of the determining factors.

In the Keynesian analysis, the causal relation between savings and investment is reversed in its direction of action. Savings and investment remain necessarily equal, but decisions to invest determine the level of savings rather than the other way around. Decisions not to spend merely reduce income, for there is no automatic adjustment in the price system which would transfer income not spent on consumption into capital expansion.

Keynes' theory in itself gives no basis for government [89] policy. But when it is considered in connection with the assumption that the sine qua non of all economic considerations is that the economic process be kept going, then this theory suggests definite policy in the matter of government ownership. Its author made that assumption, and he drew several conclusions in that regard. His general conclusion is as follows:

> I expect to see the State, which is in a position to calculate the marginal efficiency of capital-goods on long views and on the basis of the general social advantage, taking an ever greater responsibility for directly organizing investment ...[166]

In the same vein, he said:

> In conditions of laissez-faire the avoidance of wide fluctuations in employment, may, therefore, prove impossible .... I conclude that the duty of ordering the current volume of investment cannot safely be left in private hands.[167]

[164] Ibid., p. 167.
[165] Ibid., p. 170.
[166] Ibid., p. 164.
[167] Ibid., p. 320.

In judging that the rate of interest, if left to itself, tends to rise too high, Keynes suggested that the government control it in order not to impede economic development.[168] In this same connection, he pointed out that insecurity is the chief cause of a high liquidity preference and therefore one of the main forces in raising the interest rate and decreasing the rate of investment.

Keynes evidently considered his theory to be a complete [90] demonstration that the open market process cannot survive its inherent incapacity correctly to correlate the propensity to consume and the inducement to invest.

> Whilst, therefore, the enlargement of the functions of government, involved in the task of adjusting to one another the propensity to consume and the inducement to invest, would seem to a nineteenth-century publicist or to a contemporary American financier to be a terrific encroachment on individualism, I defend it, on the contrary, both as the only practicable means of avoiding the destruction of existing economic forms in their entirety and as the condition of the successful functioning of individual initiative.[169]

Thus Keynes thought that his economic analysis could be used to achieve the minimum institutional adjustments required for avoiding complete collapse.

Keynes' theory is an analysis of the internal working of the open-market process. It pictures that process as defective in that it cannot maintain sufficient effective demand to maintain full employment. The concept of defectiveness is drawn from the conviction that continuity and efficiency of the economic process is the all-important basis for any sort of economic theorizing. In that conviction, Keynes was able to say, in light of his theory, that, since the market process cannot alone maintain the requisites of its own continuance, deliberate measures must be taken to correct the deficiency. His theory also furnishes a quantitative measure of whatever governmental intrusions are adopted. But his theory offered [91] him no guide as to which enterprises or what kind of enterprise should be the points of intrusion, and he therefore refrained from making any pronouncements on that matter. A great many proposals for particular government enterprises have claimed basis in the Keynesian analysis. But their basis in that theory is restricted to the necessity for government expenditure; they can find in it no warrant for being selected as particular enterprises in which the government could or should engage.

Institutionalists

The term "institutionalist" customarily has been applied to a group of American economists whose theoretical outlook seemed to stem from the work of Thorstein Veblen. Out of this group, during the first three decade of the current century, there was promise of a new school of economic thought. But the theoretical formulations of the persons in that group have diverged so greatly that the identification of a separate school seems to have disappeared. The members of what was called the institutionalist school have dispersed into the contemporary complex.

---

[168] Ibid., p. 351.

[169] Ibid., p. 380.

But the effects of Veblen's work have not played out. On the contrary, they have entered importantly into the contemporary complex. Not only has Veblen's analysis been furthered directly in the line of his basic concepts, but also his criticisms of the various bodies of economic theory have [92] enforced a skepticism and consequently a reexamination that still is in ferment.

Veblen's provoking, critical analyses of the several systems of received doctrine placed him at once in the role of a dissenter, but not the kind of dissenter with whom the orthodox were accustomed to deal. He dissented not only from the orthodox but also from the dissenters in that he proposed no pattern of economic institutions which would be the proper pattern, and no such pattern could be given foundation in what his theory indicated. The heterodox, both revolutionary and non-revolutionary, had always used the terms, categories, and much of the same conceptuology used by the orthodox. And, as in the case of orthodox theory, some particular pattern of institutional arrangements had always found warrant in each dissenting general theory. But Veblen insisted that those categories and that conceptuology were insufficient and in part irrelevant to the general economic theory.[170] Here was something new, and it was new in a sense that proved extremely perplexing to the various schools of received doctrine.

This perplexity was not lessened by the character of Veblen's writing. He wrote "piece- meal," in terms of both time and subject-matter. And nowhere did he set down his comprehension of the economic process in any organized, clear-cut, [93] and clearly stated fashion.

The piece-meal character of Veblen's writing also renders difficult any effort to give a succinct and simple outline of his system of ideas. The materials have to be taken from here- and-there because they are given no sequentially organized treatment by Veblen himself.

One of the most highly reputed of Veblen's biographers has said:

> If the men who count in the social sciences in the United States were asked today who was America's most creative thinker in this field, few would dissent from the choice of Thorstein Veblen. They might not approve his views in general, let alone the details, but they would acknowledge that he showed a far more penetrating insight into the nature and future course of development of the modern business civilization than any of his contemporaries or successors.[171]

Whether Veblen's "penetrating insight" was a function of his general economic analysis is a debatable question. But it is worth mentioning that his rejection of orthodox theory seems not to have incapacitated him in that regard.

Veblen agreed with all of his predecessors that economics is concerned with the provision of the material means of human life. He further agreed that the focus of that concern is with "the conduct of man in his dealings with the material means of life."[172] In other words, economic science is concerned [94] primarily with the institutional aspects of the living-getting process. It considers the physical-engineering phases of that process only in their causal or genetic relations to the institutional aspects. In short, economics is the scientific study of institutions.

---

[170] Thorstein Veblen, The Place of Science in Modern Civilization., B. W. Huebsch, New York, 1919, pp. 56-81.
[171] Thorstein Veblen, Imperial Germany and the Industrial Revolution, The Viking Press, New York, 1919.

(Opening paragraph in “Introduction” by Joseph Dorfman.)
[172] Thorstein Veblen, The Place of Science in Modern Civilization, p. 241.

Veblen observed that scientific economics cannot consider any given pattern of institutions as inclusive and continuing factors. For, as he pointed out, "To the modern scientist, the phenomena of growth and change are the most obtrusive and most consequential facts observable in economic life."[173] And since "human conduct, economic or otherwise, is subject to the sequence of cause and effect"[174] and is therefore subject to scientific inquiry, "the science is necessarily an inquiry into the life-history of material civilization ..."[175] His statement continues:

> Like all human culture, this material civilization is a scheme of institutions - institutional fabric and institutional growth. But institutions are an outgrowth of habit. The growth of culture is a cumulative sequence of habituation, and the ways and means of it are the habitual response of human nature to exigencies that vary incontinently, cumulatively, but with something of a consistent sequence in the cumulative variations that go forward, ...[176]

It is the "consistent sequence in the cumulative variations" that Veblen was seeking. For the pattern of that sequence is the necessary content of the dynamic theory of institutions. He did not succeed in formulating that pattern, but he did have sufficient comprehension of its general character to permit him to display the "penetrating insight" with which he has been credited.

Veblen's search for the "consistent sequence" in institutional adjustment led him to the conviction that institutions, which he defined as "the settled habits of thought common to the generality of men,"[177] are the outcome of daily "habits of life."

> Whether it is intentionally directed to the education of an individual or not, the discipline of daily life acts to alter or reenforce the received habits of thought, and so acts to alter or fortify the received institutions under which men live.[178]

Also, any deliberate effort to change the institutional pattern at any point depends on whether the proposed change "meets the special material requirements of the situation which provokes it,"[179] and any proposed change that promises to meet those requirements cannot be staved off without making up one's account with those material conditions which converge to bring [96] it on."[180] Thus Veblen thought that any adjustment of an economic institution, whether by gradual habituation or by deliberate choice, is contingent on that adjustment's effective correlation with the physical provision of the material means of life.

---

[173] Ibid., p. 232. [174] Ibid., p. 239. [175] Ibid., p. 241.
[176] Loc. cit. [177] Ibid., p. 239. [178] Ibid., p. 314.
[179] Thorstein Veblen, The Engineers and the Price System, The Viking Press, New York, 1934, p. 87.
[180] Loc. cit.

This theory conceivably could be applied to the broader aspects of institutional adjustment and to the most minute adjustments - for example, price variations. Veblen thus makes it more than a suspicion that all economic problems are problems of institutional adjustment.

It is for that reason that his work is particularly significant to a study of the theoretical foundations of government ownership in a capitalistic economy. For the problem of government ownership in such an economy obviously is a problem of institutional adjustment. If the run of the facts in the sample of government-owned enterprises selected for this study fall into the pattern of Veblen's theory, they will constitute added evidence of the validity of that general theory; if the run of the facts do not fall into that pattern, then the converse will obtain.

Veblen left his general theory at the state of "making up one's account with the material conditions which converge to bring it (adjustment) on." The extension of that theory [97] has been in determining how that account is made up; the refinement of that theory has been in clarifying the concepts of the "institutional" and the "technological" aspects of the economy. The only published effort to further Veblen's general theory on both counts has been made by Professor C. E. Ayres of the University of Texas.

Professor Ayres' extension of the theory of institutional adjustment is made on two fronts both of which enter into the determination of how the "account with the material conditions" is "made up."

The first of these two fronts is the theory of value, the theory of that in terms of which the account may be drawn. Professor Ayres draws the Veblenian distinction between the technological and institutional aspects of the economy in light of more recent developments in the theory of knowledge[181] and concludes:

> For every man the real and valid judgments of economic value are those he makes between purchases, judgments of value in use as economists once said, tested and verified by the way things work in the continuous effort of existence. It is to this test that all economic values are in fact submitted, those of public policy affecting the industrial system as a whole no less than those of private life. For every individual and for the community the criterion of value is the continuation of the life-process - keeping the machines running. That is what we have in fact been doing throughout the ages, and that is what we must continue [98] to do and do continually better - technologically better - if we are to continue and exceed the achievements of the past.[182]

---

[181] Clarence E. Ayres, The Theory of Economic Progress, The University of North Carolina Press, Chapel Hill, 1944, pp. 177-202, 219.

[182] Ibid., p. 230.

Professor Ayres makes it clear that the one thing without which there is nothing at all in the economic sense is the continuity of the economic process. Indeed, a reference back to this basis is forced by the run of the physical facts. For it is obvious that any criterion of value in terms of which action is taken which contravenes the continuity of the economic process thereby cancels all human action, including the action taken under those terms. It is proposed, then, that economic estimation be made directly in terms of the criterion which the run of the facts dictates. Professor Ayres views the character of that dictation much as the curvature of a lens is dictated by its function in the process in which it plays a part. The problem posed by any disrapport between the lens grinder's predilection concerning proper concavity or convexity on the one hand and the dictation of the facts on the other hand can be resolved only by an adjustment of the predilections. In this same sense, Professor Ayres points out that the locus of economic value is in the economic process, not in predilections drawing warrant from any other source.

Something of this same conception of value is implicit in most of Veblen's work, and he tacitly applies it in almost all of his discussion. But his view of science as being [99] motivated by "idle curiosity" blocked any logical way to a theory of value drawn in terms dictated by the run of the facts. For if science is valid only as an exercise of idle curiosity, although its content is dictated by the run of the facts, there is no way to base the validity of science itself in the same sort of mental processes with which it examines and explains the facts.

The second front on which Professor Ayres extends the Veblenian theory of institutional adjustment is the determination of what particular adjustments are made. This determination comes to focus in what Professor Ayres calls "the power of ideas."[183]

Many students of Veblen's writings have got the impression that institutional adjustments, being changes in the "settled habits of thought common to the generality of men," are altogether a matter of unconsciously modified habituation. From this point, the conclusion sometimes has been drawn that changes in structural institutions are exclusively unreasoned changes in habits. Professor Ayres points out that ideas are the immediate point of departure for adjustments in structural institutions, that is, in the prescribed relations of a group of people organized for definite purposes."[184]

But he points out also that two kinds of ideas are [100] involved.[185] On the one hand, conceptual formulations based on the authority of personalities serve toward maintaining the existing rules of the game. On the other hand, ideas arising as conceptual formulations of the material economic process serve toward changing the rules of the game as the material conditions of the economic process change. Either way, the pattern of ideas is the immediate prescription of the pattern of human relations, and any change in the former is the immediate prescription of a change in the latter. Professor Ayres' contribution at this point is that the causal potency of an idea based on the authority of personalities is a function of the coercive power of those personalities, whereas the causal potency of an idea based on the run of the facts in causal terms is a function of the correctness of the idea. The former, Professor Ayres identifies as non-causal or metaphysical; the latter, he identifies as science. Metaphysical ideas have no potency in themselves; the source of their potency is exterior to the ideas. Scientific ideas are potent as such.[186] Then it is the interplay of these two forces that determines the pattern of any adjustment. Professor Ayres concludes that there is no way, short of total destruction, in which metaphysics can prevent the encroachment, however gradual, of science as a way of [101] understanding and therefore specifying the patterns of

human relationships.[187] And the reason for this is that the inherently developmental character of science means that it constantly proliferates beyond its immediate boundaries.[188] As a way of explanation, science encroaches upon new areas and therefore specifies the trespassed area.

The principle is simply that a pattern of human relations requires that the individuals involved in the pattern comprehend their respective parts in it. If the players in a game do not understand the rules, as those rules apply to them, then there can be no game. A pattern of correlated human activities requires that the persons whose activities are correlated understand their respective parts in the pattern of correlation. Otherwise the correlation breaks down. Structural institutions are patterns of correlated human activities in both the metaphysical and scientific senses and therefore come under this principle.

---

[183] Ibid., pp. 283-307.
[184] Ibid., p. 298.
[185] Ibid., pp. 286.
[186] Ibid., pp. 284-285.
[187] Ibid., pp. 289, 307.
[188] Ibid., p. 297.

The institutionalist theory, as it now stands, may be outlined as follows: (1) Economics is concerned with the living-getting process. (2) The area of that process for which economics seeks to provide explanation and understanding is the pattern of human relationships. (3) The pattern of human [103] relationships takes visible form in structural institutions. (4) Structural institutions serve two kinds of functions: on the one hand, they serve to express and to give effect to the pattern of invidious distinctions among the persons who make up the institution; on the other hand, they serve as the organizational devices through which human activities are directed to, and give effect in, the process of providing the material means of life. (5) These two functions are the visible results of two different kinds of mental operations: the invidious- differentiation function and the "rules of the game" which give it effect are the result of conceptual operations which are based on, and seek optimum correspondence with, a preconception of the ultimate correctness of a pattern of invidious differentiation; the material- effect function and the "rules of the game" which give it effect are the results of conceptual operations which are based on, and seek optimum correspondence with, the run of the facts in the process of providing the material means of life. (6) Therefore, the character of a structural institution is the resultant of the interplay of these two ways of thinking, the former seeking optimum fidelity to a preconceived situation, the latter seeking optimum correlation, or efficiency, in an inherently developmental process. (7) The adjustment-determining power of the kind of thinking based on a certain pattern of invidious differentiation is a function of the coercive power of the persons giving active support to that pattern; the adjustment-[103]determining power of the kind of thinking based on the efficiency of the economic process is a function of the scientific correctness of the pattern of ideas. (8) The points of encroachment are specified by the emergence of the scientific understanding of any particular relation in the institutional structure on the part of the persons whose relations comprise the structure of the institution. (9) Therefore, the pattern of adjustment is prescribed by the pattern of encroachment on the non- efficiency-determined portions of the structure by the scientific method of explanation and therefore understanding and therefore verification and therefore specification in the minds of those persons whose relationships are specified in the structural institution.

This general theory is an explanation of the process of institutional adjustment. As such, it says nothing about the immediate procedures through which adjustments are effected. But it discloses that the latter is a matter of the devices used by those persons who actively support an established pattern. In the case in which those persons use physical force, the procedure of adjustment involves physical force; in the case in which those persons use persuasion, then the procedure involves persuasion. But in either case, the pattern of adjustment is specified by the development of scientific understanding since that is the only way in which the "account" can be "made up" with the physical circumstances which converge to bring on the problematic situation requiring adjustment.

[104] The theory outlined here presents two principles which may be applied directly to the problem at hand. The first principle is that the economic forces acting toward the adjustment of an institution are set in motion by the institution's infringement on the technological efficiency of the developing economic process and that the problematic character of the situation can be removed only by adjustment of the institution toward conformity with the technological situation in terms of technological efficiency. It is convenient to call this the principle of technological determination. The second principle is that the pattern of interdependence which is recognized by the people whose actions are correlated in a structural institution determines the specific character of the institution. It is

convenient to call this the principle of recognized interdependence.

[105] CHAPTER IV

THE CONTEMPORARY COMPLEX

It has been noted that the last reformulation of the classical theory both claims and disclaims generality and foundation.[189] That formulation disclaims being inclusive and basic in that it disavows any pretension of displaying the real economic factors and their functional pattern;[190] it retains claim to generality and foundation in that it reveals the operation of price which is presented as the only way in which economic matters can be judged at all objectively.[191] This conjuncture gives logical permission to restrict the study of economics to price analysis and at the same time to disavow any meaning beyond price. Thus, unshared significance is conjoined with exemption from responsibility for explaining the economic process.

The contemporary complex of economic theory is, in most part, the result of developments which follow that pattern of justification. The majority of contemporary theoretical developments are exclusively price analysis. Indeed, few that are not exclusively concerned with price have gained much [106] professional attention. Most of the contemporary developments of price theory have been directed toward refining the determination of equilibria toward which the forces of the open market drive prices under various conditions. Some such developments are characterized as mere exercises of idle curiosity in determining comparative prices in terms of other prices and are said to bear no other significance although the equilibria are attained by the operation of the basic forces which drive the economic process. Those forces are the human motive of utility and disutility (by whatever name). Thus the Marshallian conjoinment of significance and extra-price irresponsibility is maintained. Equilibrium becomes "just equilibrium."[192] And at the same time, it becomes

> … an irony of history that marginal utility which - with its offspring, marginal utility - was at one time claimed as a complete answer to all practical problems, should now be said to prove nothing.[193]

But the contemporary developments in price theory which have received the widest attention are those which are thought to have significance and importance in that they give some indications of proper solutions of major economic problems which confront contemporary society.

The Keynesian theory already has been mentioned in this [107] connection.[194] That theory is one of price equilibria, but it is not a theory of the equilibria of utility and disutility.[19] And that, at bottom, is why the Keynesian analysis is unable to indicate policy without recourse to an outside theory of value.

And that also is why the Keynesian analysis can consider the level of

employment an involuntary variable.

---

[189] See p. 68 above. [190] Cf., p. 61 above. [191] Loc. cit.

1[92] Lionel Charles Robbins, The Nature and Significance of Economic Science, Macmillan and Company, Ltd., London, 1935, p. 143.

1[93] Erich Roll, op. cit., p. 412. [194] See pp. 89-90 above. [195] John Maynard Keynes, op. cit., pp. 3-22.

Its abandonment of the classical theory of value permits it to consider the level of employment as a problem. The theory of value to which recourse is taken in Keynes' discussion of policy is the same one that is incorporated in the institutionalist theory - that is, the technological efficiency of the economic process. The meaning of the Keynesian analysis in terms of price theory, as such, is not fundamentally significant. In fact, the position is stated explicitly that purchases (including labor) which enter as costs in further sales are made on the basis of marginal productivity (in terms of money price) of the items purchased.[196] But, as Keynes pointed out, this criterion is not possible where the costs or receipts are not subject to pecuniary accountancy. The points at which that impossibility occurs are (1) where items (labor) are purchased which are not supplied or withheld by virtue of comparative money costs and (2) where items (consumers' [108] goods) are purchased which do not themselves enter as money costs in relation to further expectations of sales. Both of these points are where human life enters as one side of the transaction. The first breaks down the classical theory of wages because there is no way in which the marginal disutility of working, however accounted, can be brought into equality with the marginal productivity of labor. The second breaks down the classical theory of the rate of interest because efforts to consume (or conversely, to save) do not have the same determinants as the rate of investment. In both cases, the classical theory breaks down where it cannot avoid directly representing human motivation in terms of price. Both disutility, when experienced directly by people, and utility, when purchased directly for realization, show no tendency to conform to the price pattern. In the Keynesian view, the only things which conform to the price pattern are prices. Thus the Keynesian theory does no violence to price theory as such; its infringement is on the price theory of value. The relation between the Keynesian analysis and the classical price theory is one of correction; the relation between the Keynesian theory of the level of employment and the classical theory of value is one of destruction.

Another contemporary development which has received wide attention and which has been held to have significance (again, because of indications in regard to proper policy) is the theory of monopolistic competition.

[109] Much of the theory of monopolistic competition as it now stands was anticipated by Professor A. C. Pigou of the University of Cambridge as early as 1912.[197] Professor Pigou's treatment is an effort to apply the utility theory of value to the problem of proper policy regarding the control of various kinds of economic enterprise, using as his criterion what would exist in terms of price, quantity, and quality under competitive conditions.[198] Professor Pigou concluded after extending his studies over many years that other arrangements of control can be worked out where competition (struggle for a market) enters as a factor.[199]

> When, however, we have to do with undertakings in which the competitive element is practically extinct, it would seem that, though various compromise arrangements are possible, and sometimes, for political or other reasons, may be desirable,
> the dominant issue is between clear-cut public control of private concerns and clear- cut public operation of public ones.[200]

---

[196] Ibid.,passim, but particularly pp. 17-18.
[197] A. C. Pigou, Wealth and Welfare, Macmillan and Company, Ltd., London, 1912.
[198] Ibid., p. 266.
[199] A. C. Pigou, The Economics of Welfare, Macmillan and Company, Ltd., London, 1920, p. 339.
[200] Loc. cit.

If nothing except "to make the values of marginal net products everywhere equal" were involved, the answer, as Professor Pigou understands it, would obviously be government ownership and [110] operation.[201] But there are other factors, for example comparative prices that must be paid for equal quality of management and labor,[202] the competition of the industry in question with other industries, the tendency to slow down technological advancement because of the risks involved,[203] the likelihood that government ownership would result in inefficient combination of the factors because political subdivisions rarely coincide with the territory covered by optimum plant,[204] the advantages to be gained by coordinating some enterprises such as laying water mains and paving streets,[205] and the price that government would have to be paid for a going concern.[206] Professor Pigou finally concludes:

> Whether any particular monopolistic industry should be publicly operated or publicly controlled cannot be determined in a general way.[207]

However, he states that the matter must be decided on the basis of comparative efficiency, that efficiency cannot be determined by statistics, and thus that it is necessary to fall back on [111] "general rule" in such problems.[208] In Wealth and Welfare, Professor Pigou gives this general rule:

> The case for control is strongest when the monopolistic industry is, in great measure, rival to some other industry; the case for operation is strongest when such operation would make practicable an advantageous enlargement of the unit of production.[209]

This idea of the gains to be made in certain enterprises by enlargement of plant is furthered by Professor R. H. Montgomery of the University of Texas. His general statement of this point is as follows:

> The plant should be expanded as long as the output which would be taken at incremental cost can be produced at lower average cost.[210]

---

[201] Ibid., p. 340. [202] Ibid., p. 343. [203] Ibid., pp. 348-352.
[204] Ibid., pp. 352-355. [205] Ibid., p. 356. [206] Ibid., pp. 357-359.
[207] Ibid., p. 357. [208] Ibid., pp. 339-340. [209] A. C. Pigou, Wealth and Welfare., p. 289.
[210] R. H. Montgomery, "Government Ownership and Operation of Railroads," Annals of the American Academy of Political and Social Science, Philadelphia, January, 1939, p. 143.

Where perfect competition prevails this situation is presumed to be brought about because incremental cost and average cost are identical at the point of lowest average cost. But where monopoly or monopolistic competition prevails, the individual enterprise ordinarily operates under conditions of decreasing costs. In that situation, Professor Montgomery points out that, under the Marshallian assumptions regarding the idea of consumers' surplus, the maximization of community gains is attained where incremental cost and the demand schedule have a [112] common price-value per unit.[211] Both Alfred Marshall and Professor Pigou indicated this same conclusion. But Professor Montgomery points out in extension that in case the relation of cost and the demand schedule is such that the full use of existing plant permits profitable operation, and that the plant, by extension, can continue to operate under conditions of decreasing cost, then the plant should be extended until the quantity which can be sold at incremental costs can no longer be produced at decreasing average costs.[212] But in those enterprises in which the demand schedule is below the lowest point on the average cost schedule, for the corresponding volume of production in the extended plant, the extension of plant and the establishment of price at the intersection of the demand and incremental-cost schedules results in permanent losses to the owner. Professor Montgomery concludes that unless the government adopts the policy of providing facilities for competing firms the only way in which the gains can be realized for the community is through government ownership.[213]

Professor Montgomery further points out that decreasing-cost industries are usually those with proportionately high capital costs and that this circumstance inclines entrepreneurs in such enterprises to restrict the introduction of new [113] techniques.[214] This conclusion is directly opposite to Professor Pigou's conclusion on the same point, the latter being based on the timorousness that office holders experience about taking risks.[215]

Disrapport between the policy indications of these theories of price under monopolistic competition and under monopoly and the theory of competitive price is not between the price theories as such. The differences in policy indications result from the introduction of the idea that conditions of monopoly and monopolistic competition are "normal" in that they occur under a general laissez -faire policy. It will be remembered that the classical theory of competitive price stands on the assumption that the human motives in economic activities find their most effective expression and exercise in the free market. The theories of monopoly price and monopolistic-competition price stand on exactly the same assumption. Also, these two types of price theory do not disagree on the tenet that competitive price reflects the optimum arrangement of the real economic factors and that where perfect competition exists it forces that arrangement to come about. The real difference lies in the idea that there are technological factors which are [114] causally antecedent to the institutional factors and which preclude institutional adjustments that would permit competitive price to work out its optimum. Thus these theories of monopoly price and of monopolistic-competition price maintain the competitive-price guide to the proper arrangement of the factors but abandon the assumption that laissez-faire brings about that proper arrangement.

---

[211] Ibid., pp. 141-143. [212] Ibid., pp. 142-143. [213] Ibid., p. 144.

[214] R. H. Montgomery, "Government Ownership and Operation of the Electric Industry." Annals of the American Academy of Political and Social Science, Philadelphia, January, 1939, pp. 43-49.

[215] A. C. Pigou, The Economics of Welfare, pp. 348-352.

This particular incidence of the technological situation on the free-market determination of price results from the reduction of the possible number of firms engaged in an industry. For, it is because of the limited number of firms that any individual firm can conceive the demand schedule of its product as anything other than the market price. The first inclusive statement of the determination of price under the various conditions which limit the number of firms was made by Professor Edward Chamberlin in 1928.[216] His statement presents the determination of price at the point at which the cost schedule has only one common value with the demand schedule. In any case in which there is a struggle for the market, and in which entry into the field is free, the entry and exit of firms brings the demand schedule for each firm into tangency with its cost schedule, and prices are driven to the point of tangency.[217] [115]

But , since the elasticity of the demand schedule for each firm is less than infinity, the point of tangency is higher than the lowest value on the cost schedule, and the volume of output is less than that which corresponds with the lowest cost. If free entry does not obtain, the struggle for the market, through adjusting price and quality or through advertising outlays, produces the same results.[218] The only way in which a profit can be assured is by having an advantage which cannot be duplicated,[219] that is, by having an absolute monopoly on some aspect of the operation. The only alternative assurance of a profit would be for all firms to refrain from a struggling for the market through price, quality, character of product, or increased sales effort. Thus, monopolistic competition, although it destroys profits, results in lower production and higher price than does perfect competition.

But these are the very same defects which principles of government ownership, based on natural monopoly, are designed to overcome. Since some monopolies are "inevitable" and since they result in these same defects, they have been held to be proper items of government ownership. But monopolistic competition is pictured as being "natural" in the same sense in which "inevitable" monopoly is so pictured - that is, in [116] the sense that it results from physical facts which are not subject to determination by policy. Then the principles which are based on monopoly's deviation from the competitive norm would seem applicable also in the case of monopolistic competition even if the latter does not result in, nor tend toward, monopoly under a laissez-faire policy.

The contemporary complex of economic theory is characterized by the two lines of development which are outlined here and by various combinations of the three basic theoretical developments outlined in the previous chapter.

Both lines of development in contemporary price theory deviate sharply from the price theory of value which is the core of the classical general theory. Both seek other criteria than price for valuation purposes. The criterion which is used in the Keynesian analysis is the level of employment; the criterion which is implied in the theory of monopolistic competition is the ratio between production and possible production. They represent two different approaches to the central problem of the overall efficiency of the economic process.

---

[216] Edward Chamberlin, The Theory of Monopolistic Competition, Harvard University Press, Cambridge, 1938.
[217] Ibid., pp. 81-100. [218] Ibid., pp. 74-81. [219] Ibid., pp. 65-68.

But in each case, reliance on that theory of value necessitates going outside the theoretical structure for policy determination. Both reject the general theory the development of which has provided the tools with which they are constructed, and neither recognizes the general theory built on the theory of value which they have adopted. Both lines of development in contemporary economic price theory are thus peculiarly [117] orphan. The have, in effect, rejected one general theory because of incompatibility, and their place in the general theory the criterion of which they have adopted is not yet worked out. For that reason, perhaps, specific principles concerning the problem of government ownership based on these two lines of development have not been formulated. But both of these developments imply the necessity and possibility of institutional adjustment and therefore permit the problem of government ownership to be considered in relation to them.

In contemporary economic discussion, the problem of government ownership has received wide attention. The proponents and opponents, in each instance in which the problem has arisen, have felt called-on to give reason for their positions. As has been shown the theoretical formulation of opposition to government ownership in any particular instance, or in general, has been able to find basis in the classical general theory. But the proponents of the government ownership of any particular enterprise, including the classical theorists, have been forced, in each instance, to base their case on propositions which are not subject to consideration in terms of the classical general theory. And this is true of the contemporary theorists who have discussed the problem no less than of their predecessors.

In most current discussions of the government ownership of any particular enterprise, the arguments of the proponents generally have run somewhat as outlined by Mr. Stacey May in [118] the Encyclopedia of the Social Sciences.[220] Those arguments may be listed as follows: (1) that the products of the enterprise are for government use, (2) that the enterprise is necessary to the economy but that private capital cannot or will not bring it into being, (3) that the enterprise should be government-owned in order to conserve natural resources, (4) that the postponement of returns precludes the enterprise being undertaken by private firms, (5) that the enterprise is necessary for purposes of military strategy, (6) that the enterprise will serve as a source of public revenue, (7) that government ownership of the enterprise is necessary in order to control the consumption of its product which, if used unrestrainedly, does harm to the economy, (8) that private motivation in the enterprise is toward cutting costs which are necessary in order to safeguard the public health, and (9) that the enterprise is peculiarly ill- adapted to competition in that under competition it results in inefficient operation.[221]

Mr. May suspects that these arguments are really excuses for collective action, or reasons offered as sufficient for it, rather than being "in any specific case actually the efficient causes of the collective action ..."[222] He concludes that [119] "it is not so much theoretical support as evidence of profitable achievement which led to an ever wider extension of government activities."[223] But in the adjustment of structural institutions, and unquestionably in those cases which require specific legal designation, the point of departure is based, at least ostensibly, on "evidence of profitable achievement." In such adjustments,

---

[220] Stacy May, "Government Ownership," Encyclopedia of the Social Sciences, Vol. 7. The Macmillan Company, New York, 1937, pp. 111-119.

[221] Ibid., p. 112. [222] Ibid., p. 113. [223] Ibid., p. 114.

"sufficient reasons" are the efficient causes at the stage in the adjustment process at which people must make choices. In economic theory, all any reason may ever accomplish is through serving as an efficient cause of human action. This, in fact, is seen to be the causally efficient relationship between the classical general theory and the problem of government ownership. In so far as a theory serves as a sufficient reason for making up peoples' minds on the matter, it serves as an efficient cause in the process of adjustment. For it is quite clear that the decisions of people specify the particular immediate adjustment. And all human actions which may be characterized as purposeful can be so only by virtue of the fact that there is "sufficient reason" to direct the action. Otherwise, the action cannot be said to be purposeful - it becomes merely a "random" action. The "evidence" may be misconstrued in a "sufficient reason," but it forms the substance of the reason and it is given causal effect in institutional adjustments only through becoming a sufficient reason. The evidence may be misconstrued, but it [120] cannot be absent. So the "sufficient reasons" of which Mr. May speaks are not, as such, disqualified from serving as efficient causes in determining the government ownership of any particular enterprise.

Appreciation of the fact that the determinants of adjustments in structural institutions must take effect through the comprehensions of people has been the occasion for at least one important study of such adjustments in certain economic enterprises.[224] A group of thirty professional scholars collaborated during a period of five years in investigating the development of various instances of collective enterprise and published their report in 1943. Their report includes the pertinent data pertaining to twenty enterprises which have become, or are becoming, socialized in the sense that discretionary control over them is vested in groups of people who do not stand in the relation of private owners investing capital in the expectation of profits.

The investigation was designed and executed to throw light on the "dynamics of socialization."[225] The general hypothesis in terms of which the study was set up is that the adjustments under consideration are made in response to group interests. And the particular hypothesis which grew out of [121] preliminary studies and which was to be tested in the investigation is that the "primary factors in socialization" are "to be found in the pressure of consumer and general public interests ..."[226]

> Factors in socialization are thus thought of in terms of human needs and interests and related group pressures, such as are open to fairly direct observation. But it was recognized that identified with and largely shaping these interests are industrial technology (including means of transportation and communication), prevailing modes of property, operation of price and market mechanisms, standards of living , the system of politics, government, and civil liberties, influences of educational and other social institutions, current mores and folkways (in addition to those indicated), land and other geographic conditions, inborn human trains and capacities, and the whole system of production and distribution with its personnel and capital equipment growing out of such factors.[227]

Thus the whole social and economic complex was recognized as playing in on the problem, but the "concept of group interests" was chosen because it was thought to reflect "better than any other the endless variety of causes and circumstances."[228]

Professor Seba Eldridge of the University of Kansas, who organized the inquiry,

concluded from the studies and reports on special problems that the factors which act as "the final and decisive controls of the process" are "consumer and public interests as these are interpreted by consumers and [122] citizens themselves."[229] Professor Eldridge surmised also that, where consumers and citizens are comparatively free, this same conclusion is indicated by general observation.

---

[224] Seba Eldridge et al., Development of Collective Enterprise, University of Kansas Press, Lawrence, 1943.
[225] Ibid., p. 3. [226] Ibid., p. 4. [227] Ibid., p. 6.
[228] Loc. cit. [229] Ibid., pp. 541-542.

> From the proposition that consumer and citizen choices are comparatively free, it follows that collective enterprises and individually owned enterprises, too, grow in accordance with their decisions, or what they take to be their interests. Consumer- citizens are the selective force, the ultimate control, in this very important matter.[230]

It should be noted that the consumer-citizen principle, as stated, neither contradicts nor supports any of the principles already considered. All of the other principles are statements of situations which stimulate recognition, or force people to recognize, that an enterprise should be government-owned. Those principles are conceived as sufficient reasons for government ownership, and they may serve therefore as causal factors in the actual determination of government ownership. If the enterprise in question is technologically necessary to the physical provision of the means of life and if the "should" takes the form of the only recognized control arrangement that will permit the enterprise to be carried on, then government ownership is without question the answer, regardless of classes or whatever. In those instances in which the technological necessity is less clear or in which the technological possibility [123] of alternative control arrangements is recognized, the matter becomes a debatable question. But the outcome of the debate is the form of ownership specified for the enterprise. In either instance, the government ownership of an enterprise becomes "what is" by virtue of having become recognized as "what ought to be." Thus the establishment of the government ownership of an enterprise points the inescapable connection in economics between theory and policy and between policy and practice.

The consumer-citizen-interests principle, on the other hand, is a statement of whose minds are made up. It is phrased in terms which indicate a presupposition that consumers and citizens determine their interests differently, in view of the same facts, than do owners, managers, and laborers. But since almost all consumers and citizens are either owners or managers or laborers, and since Professor Eldridge does not intend to say that an individual's interests as a consumer-citizen overshadow his particular interests as an owner or a manager or laborer, it would seem that what the principle really is saying is that the socialization of an enterprise is in response to the interests of people outside that particular enterprise. This principle's contribution, in terms of the other principles, seems to be, then, that the conditions by virtue of which an enterprise can be more efficiently operated under government ownership are given recognition and effective expression through people who are not directly engaged in that particular enterprise.

[0230] Ibid., p. 546.

[124] CHAPTER V

EXAMPLES OF GOVERNMENT OWNERSHIP IN THE UNITED STATES

The collaborative study mentioned in the preceding chapter is important to the present study not only because of the conclusion which Professor Eldridge draws from it but also because it contains an important and extensive collection of data concerning particular government-owned enterprises.[231] In searching for pattern in the determination of government ownership, the present study is enabled to rely on that collection of data. The data which were collected for that study may be used also as a referential check for the principles of government ownership which have been proposed in economic literature.

Those principles, in turn, serve the present study as a point of departure in looking for pattern in the sequence of events leading to government ownership in particular enterprises.

Classification of the Principles

The principles of government ownership may be classified in any number of ways, but they fall most readily into two [125] general categories. First, some principles are statements of situations which specify government ownership without recourse. That is to say, they leave no choice in the matter. When those conditions prevail, there is no alternative to organizing the enterprise so that the body politic exercises the functions of ownership. The other general category includes the principles which propose to state the conditions which are sufficient to motivate the shift of an enterprise to government ownership even though alternative organizations of the enterprise are possible.

The conditions which specify government ownership without any possible exception are all predicated on the supposition that the enterprise in question is absolutely necessary to the continued functioning of the economy. All of them are statements of conditions which make it impossible for the open market, operating on the profit motive, to provide for the initiation and continuation of the enterprise.

Adam Smith evidently had something of the sort in mind when he observed that some enterprises cannot return the cost of the investment to an individual or small number of individuals but may return much more to society at large.[232]

John Stuart Mill's dictum that the necessity of some things cannot find expression as effective market-demand covers the same idea. The benefits of things like education and [126] scientific research, although they return benefits far in excess of any expenditure on them, and although the actual process of production cannot be carried forward without them, fall "so insensibly" upon an individual that he is not motivated in the ordinary market sense.[233] The open market, then, cannot provide such necessaries.

Alfred Marshall's statement of the three conditions under which a necessary enterprise must be government-owned covers the same ground.[234] In case the supply price is unavoidably above the demand schedule at all points, it is obvious that private initiative motivated by profit

---

[231] Cf., pp. 120-123 above.

[232] Cf., pp. 21-22 above.

[233] Cf., p. 53 above.

[234] Cf., pp. 67-70 above.

would neither create nor operate the enterprise. And in case the supply price is driven above the demand schedule by risks which can be avoided by the body politic acting through its government, the same obvious conclusion must be drawn. Also, there are cases such as public streets in which Marshall thought that the plain physical requirement of constant and universal use forbids private ownership and operation irrespective of the profit possibilities.

Two determinants listed by Mr. Stacy May as having wide credence may be placed in this category. They are the extreme postponement of returns in a necessary enterprise and the destruction or depletion of a necessary resource if [127] it is left to private exploitation.[235]

It should be noted that each of the eight principles listed in the "necessity" category is a function of what Veblen called "the state of the industrial arts." It goes without saying that such things as "natural resources" and things like streets and harbors are instrumental developments and that they are meaningful by virtue of their function in the process of providing the material means of life. Even such things as education can be thought of as "absolutely necessary" only by virtue of the fact that an illiterate population cannot carry on the economic process in the current stage of technological development. In so far as consideration of government ownership is restricted to "absolutely necessity," there can be no doubt that its specification is prescribed by the state of the industrial arts.

But it should be noted also that the prescription, even in the case of "absolute necessity," is not automatically transmitted into the specified institutional structure. It can be and is so transmitted only through people making up their minds on the matter. The import of the "necessity" characterization is that, in some instances, people can survive and make up their minds on no other basis than that which is specified by the physical circumstances.

[128]The second category of the listed principles may be described as including those conditions which are thought to serve as "sufficient reason" for making up peoples' minds about the ownership of enterprises which are not considered absolutely necessary or for which alternative control organizations are possible. This category may be subdivided in terms of the grounds on which the determinants serve as sufficient reasons. The determinants in the second category are founded on three such bases which are as follows: greater technological efficiency, protection of the consumer, and social or political security.

The technological-efficiency appeal has been expressed in many ways. It includes all of the determinants listed in the first category when applied to enterprises which are not absolutely necessary in the technological sense. It is the content of Senior's and Jevons' principles which turn on accomplishing greater "results"[236] and on effecting "great advantage and economy."[237] In the opinion of John Stuart Mill, it is what is reduced in case a privately owned enterprise must be organized so that ownership is divorced from its control function and in the case of an inevitable monopoly.[238]

---

[235] Cf., pp. 117-118 above.

[236] Cf., p. 38 above.

[237] Cf., p. 59 above.

[238] Cf., p. 52 above.

[129] An appeal based on protecting the consumer cannot be separated entirely from the technological-continuity frame of reference. But it may be used without any explicit reference to, or deliberate correspondence with, that basis. It is in part what is connoted in Senior's principle of protecting those who cannot protect themselves,[239] and it is the basis of the maximization-of-consumer-surplus principle.[240] This appeal may be used also in those cases, such as water supply in which private-profit motivation may result in harm to the public health. An appeal of this sort is founded on the idea of maximizing consumer satisfaction or minimizing disutility.

The social-and-political-security appeal usually is framed in reference to military strategy or to the control of a product which, if left to private initiative, may result in social and political danger by producing moral turpitude and by allowing moral turpitude to be expressed in ways which endanger the social and political certitudes. This appeal, like the preceding one, cannot be separated entirely from the technological-efficiency concept. Indeed, the appellant may directly correlate the two. But it likewise may be used with reference to any other conception of social and political certitude which does not result in technological impotence. In the latter case, the ill effects of private ownership are [130] thought to work out through moral turpitude.

The three frames of reference in which the proposed determinants of government ownership have been thought to be meaningful are technological efficiency, consumer satisfaction, and moral efficacy. It has been indicated that the last two can be defined and stated in terms of the first. But it should be emphasized that the converse does not hold true. Technological efficiency cannot be stated in any terms other than the scientific evidence in the run of the facts. That is why the concept of "necessity," in the sense of being unavoidable, is restricted to the technological frame of reference. And that, at bottom, is why no "inviolable" principle of government ownership has ever been framed on any other basis.

The Principles and the Run of the Facts

The three frames of reference in terms of which the principles of government ownership have been proposed are nothing less than the theories of value which have prevailed in capitalistic history. They are the concepts which have been used in identifying economic validity. As such, they have served as the guiding principles in making up people's minds about the matter of government ownership. And, as has been observed, the determination of government ownership for an enterprise in a capitalistic economy requires that a specific decision be [131] made to that effect - that particular pattern of control-organization must be chosen for that enterprise. An inquiry into the determinants of the government ownership of a particular enterprise should run, then, in terms of how the conditions of that enterprise enter into making up people's minds to that effect. There are, then, two general aspects of such an inquiry: (1) the theory of value in terms of which decisions are thought to be valid, and (2) the situations or conditions which, when considered in those terms, result in the decision for government ownership.

[239] Cf., pp. 40-41.

[240] Cf., pp. 67-68. 111-113 above.

The present study is concerned with general pattern in the determination of government ownership in a capitalistic economy, it is thought best to avoid the exclusive consideration of the process in any one period. Accordingly, the examples are cited somewhat in the chronological order of their determination as government-owned enterprises.

Streets and Highways. The government ownership of streets and highways has long been a settled matter. There always have been some privately owned streets and roads, but they have become such a minor fraction of the total that the phrase "streets and highways" has come to connote government ownership.

[132] From the earliest colonial days in America, the most important streets have been public operations, but the roads were at first left to private initiative. From that beginning, public streets and roads in the United States have been expanded to approximately 3,425,000 miles representing an investment of about $20,000,000,000.[241]

These roadways connect every separately controlled piece of real estate in the United States. They are the guarantee of physical entry and exit for every productive unit of physical property in the nation. Quite certainly, the economy could not be carried on without them - they are "absolutely necessary."

It also is quite certain that any known arrangement for collecting a price directly for each usage of the roadways would reduce their efficiency. A full try was made on that basis. By 1821, some 4,000 miles of turnpikes capitalized at $11,000,000 had been built in New York State alone; and by 1832, about 2,400 miles had been built in Pennsylvania.[242] Subsequently, the states of New York, Pennsylvania, New Jersey, and Maryland chartered 705 companies which invested approximately $10,000,000 in toll roads built of lumber.[243] Some of these roads were purely promotional schemes which were designed only [133] to acquire funds by selling stock, but most of them had some basis in terms of estimated demand and cost schedules. They were built where the demand already existed or was expected immediately in terms of physical traffic. To have done so would have required a pay station at every farm and household and shop.

Also, as adjoining land was enclosed, and therefore as alternative routes were less and less available, the payment of tolls came to appear as a direct infringement of personal freedom of movement. As such, it violated the common sense and customs in communities in which the pattern of mores and folkways had been fashioned in a frontier environment where movement was free. The toll gates became a common object of disapproval at the same time that the roads were considered a blessing.

Long before anything approaching full use of any of the toll roads was attained, and therefore long before it could be determined if a road actually could possibly support itself in the open market, public opinion was finding effective expression, through political action, in specifying public ownership and operation. The Constitution of 1789 delegated to the federal government the "power to establish post-offices and post-roads,"[244] and Congress, in the act admitting Ohio to [134] statehood in 1802, specified that five percent of all receipts from sales of public lands within Ohio be allocated to the construction of roads.[245] But the

[241] John A. Vieg, "Roads and Streets," Development of Collective Enterprise., p. 36.

[242] Ibid., p. 41. [243] Loc. cit.

[244] The Constitution of the United States of America, Art. I, Sec. VIII, par. 7. [245] John A. Vieg, op. cit., p. 38.

road requirements of the westward movement far exceeded the provision of funds by such arrangements. It was perfectly clear even then that the provision of roads must precede economic development of interior regions, that to await the development of sufficient traffic to stimulate private provision of toll roads would be to strangle the economic development of those regions where waterways did not provide ready-made shipping and trading avenues. Without roads, the interior regions of the nation would have to remain on a locally self-sufficient basis, and the water-route trading centers would be denied the increased custom. But "strict construction" of the Constitution forbade appropriations for "internal improvements"; and even if the money market would provide the states with funds to construct highways which were not designed entirely for the exclusive benefit of individual states, the state government were disinclined toward it. By 1806, pressure on Congress was sufficient to secure passage of the first appropriation for a national highway. From that year to 1856, the United States Government spent $7,000,000 on the Cumberland Road running from Cumberland, Maryland to Vandalia, Illinois.[246]

[135] The advent of the railroads in the 1830s and their rapid development up to about 1890 returned the highway question back to the states where the problem took the form of "getting to the railroad." From about 1850 to about 1890, the road problem was almost altogether restricted to the states. The problem of getting to the railroad became an important one, and it began to be considered more and more on a statewide basis as the railroads approached their final pattern in the 1880s and 1890s. New Jersey began a plan of state-aid to local jurisdictions for road construction in 1891, and Massachusetts assumed responsibility about ten years later for a state system of primary highways connecting all parts of the state.[247]

But the movement for a national network of highways in the modern sense had its beginning among bicyclists.[248] The bicycle was, and is, a good-road vehicle, and by 1900 there were in the neighborhood of 1,000,000 people in the United States who used them as their major means of personal transportation. The League of American Wheelmen, which was formed in 1890, agitated for improved highways through its publications and its membership. Other groups were interested as shown by the attendance at the first national Assembly for Good Roads Promotion in 1902. In attendance at that conference were delegates from state good-roads organizations, boards of trade, [136] farmers' organizations, agricultural colleges, wheelmen's leagues, and railway associations. The delegates formed the National Good Roads League which held its first convention the next year in Washington, D. C. During the same year, Congress created the Office of Road Inquiry in the Department of Agriculture.[249]

The automobile was entering the scene about the same time. In 1895, there were fewer than 100 automobiles in America; by 1905, there were 15,000; by 1937, there were 31,000,000, almost an automobile for every four people in the nation.[250] The entire population could be put on wheels at the same time. The automobile was a fact which could be argued with only unsuccessfully. It forced the highway question back to national scope, and it even placed considerable pressure on the independent authority of contiguous nations. Correlative decisions had to be made for the several states and, to some degree, for adjoining nations. The most obvious way for getting correlation among the states was through the federal government. The pressure in that direction resulted in the federal-aid act of 1916

which, with its subsequent amendments, looks toward developing the road network of the entire nation into one, integrated whole through Federal grants-in-aid to the states to assure [137] development and through qualifying specifications to assure integration, physical quality, and continued expansion.[251]

---

[246] Ibid., p. 42.
[247] Ibid., p. 43.
[248] Loc. cit.
[249] Loc. cit.
[250] Ibid., p. 45.
[251] Ibid., pp. 46-47.

Did streets and highways become government-owned for reasons which find expression through the market process? Quite clearly, the immediate specification in each case was through people making up their minds that government ownership was the proper pattern of control organization. But why did people decide on that answer? Was there insufficient private capital? No, road bonds have always found a ready market. Was it that consumers could not pay for the service? No, the users of streets and highways have paid and do pay for the service.[252] Were the prospective returns postponed beyond the market vision? No, the returns are current throughout the life of the enterprise. Did divorce between ownership and control reduce the effective exercise of the ownership motive? No, this seems to have had nothing to do with the matter. Was it to maximize consumers surplus? No, the greatest prospective return would seem to be at the maximum utilization of plant. Was it to control the use of the product - to control traffic? Clearly not. The government ownership of streets and roads seems to have been occasioned by situations which do not find [138] expression through price.

First, roads became a physical necessity and were recognized as such.

Second, the market process did not keep up with the recognized need. The market failure in this regard evidently was not occasioned by unwillingness or inability of consumers to pay for the product. Nor was it a dearth of the materials and labor and capital funds required in construction and operation. In those cases in which the road was built originally under government ownership, the failure of private initiative was an entrepreneurial, not a consumer, failure. This seems to have been, at least in part, the result of both financial and physical inability to collect for each individual consumption of the product. Because of the money-income arrangements of the economy at large, collection had to be on a different basis than a sale of each individual act of consumption. But such an arrangement takes on the character of a tax, and the people had learned well the results of paying a tax to anyone not under their selective control. This was so obvious that the problem was never mentioned in that connection. The same set of circumstances spelled the failure of toll roads even in those cases in which they were successful private enterprises in the sense that they were profitable. The physical needs of roads could be better met by payment through taxes than by sale of the service. And, as this became apparent to the community at [139] large, politicians were not long in using it for political purposes.

The general pattern of the institutional adjustments relating to streets and roads has been in the direction of setting up the control devices which permit the optimum physical correlation between roads and the remainder of the economy.

This pattern of adjustment has not been restricted to the problem of ownership; it is apparent also in relation to the level of organized efforts to get more and better roads. As long as the physical problem was a local one, the policy problem was restricted to that level; when the physical problem became a national one, the policy problem shifted to that level.

In each instance, the general pattern of the causal sequence seems to have been as follows: (1) the development of a physical need, (2) recognition of that need by the people involved, and (3) selection of the most efficient, available control-device. The first step was a matter of people and geography and invention. It was occasioned in some measure by people pushing beyond the area of the price-determined economy because of comparatively superior living-getting possibilities in the relatively non-price frontier-economy. Thus, price determinations may be thought of as a causal factor. But that relationship was one of restriction and limitation rather than one of positive dynamic. The first step bears out the principle of technological determination. The second step was a matter of enlightenment. It

bears out the principle of recognized [140] interdependence. The third step was a matter of accommodation within the limits imposed by the first two steps and by those aspects of the total institutional structure which did not enter the problem as items on which choices could be made. For example, the decisions to place roads under government ownership did not entail any prospect of abandoning payment by the people who used the roads generally, nor did it involve any idea of the roads not being paid for in money terms. Thus the government ownership of roads was made with minimum dislocation to the institutional structure generally.

---

[252] Ibid., pp. 50-51. The net receipts from automobile license fees and gasoline taxes for the year 1939 was $1,234,150,000.

Harbors and Waterways. The same general pattern of adjustment which has been seen in the ownership of streets and roads may be observed in the case of harbors and waterways.

Natural harbors and waterways, like urban streets, began on the basis of collective control, and the pattern has never been seriously challenged.[253] Government operational control was recognized early in the common law and reinforced by the Constitution.[254] Within a month after the Constitution went into effect, Congress passed "an act for the establishment of lighthouses, buoys, beacons and public piers"[255] as [141] government operations. Since then, the federal government has spent more than $2,500,000,000 in the construction of harbors and waterways.[256]

Although the proprietary relationship between government and natural waterways has never been seriously challenged, there has been no prohibition of private construction and operation. Before railroads attained the degree of mechanical perfection[257] which permitted them to become the primary carriers of the economy, many canals were built by private firms, and some of them survived as commercial enterprises until quite recently. The Chesapeake and Delaware canal was privately owned until 1919, the Cape Cod canal until 1927, and the Dismal Swamp canal until 1929.[258] A few small toll-canals still are privately owned, but all major waterways in the United States are now government-owned and government-operated.[259]

Agitation to develop a waterway under government ownership or to take over one already constructed has been initiated, in most instances, by those who stood to gain most by the existence of the enterprise or by the government ownership [142] of it.[260] But, in each instance, the "sufficient reasons" offered for the action have been in terms of increased benefits to the economy at large. In the plea for free use or lower transportation costs, the theoretical significance of the argument has been that rates which were required or permitted under private ownership disallowed other economic developments the existence of which would increase the aggregate of economic benefits;[261] in the case of pleas for soil conservation, flood control, and recreation, the theoretical significance has been that the market process offered no way in which demand for these benefits could find expression as a causal force.[262] In either instance, the argument has been that the economic contributions of waterways could not be realized through the open market.

---

[253] Harold Kelso, "Harbors and Waterways," Development of Collective Enterprise, pp. 55-67.

[254] Ibid., p. 65 n. See also The Constitution of the United States of America., Art.I, Sec. VIII, par. 1, 3, 7, 16, sec. IX, par. 6, Sec. X, par. 2.

[255] Harold Kelso, op. cit., p. 55. [256] Ibid., p. 65.

[257] The railroads could hardly serve as a large network without air brakes, the rigid wheel-and-axle combination and the inclined-tread differential permitted by it, signaling and switching devices, and correlated accounting methods.

[258] Harold Kelso, op. cit., p. 55. [259] Ibid., p. 65. [260] Ibid., pp. 57-61.

[261] The U. S. Government gave explicit recognition to this principle when it decided in 1908 to develop the Ohio River on the assumption that it would "breed traffic." Harold Kelso, op. cit., p. 59.

[262] The TVA is the outstanding example of this situation. David E. Lilienthal, Democracy on the March, Harper and Brothers, New York, 1944.

Government owned waterways have been greatly extended for military reasons and for "pump-priming" purposes. The military-advantage argument has played an important role from the very start. The Erie Canal was laid out with due consideration to possible invasion by the British.[263] Ship canals such as the Chesapeake and Delaware, the Cape Cod, the Panama, and the proposed Florida waterway have been advocated as lanes for fighting ships,[264] and the internal waterways generally have been proposed for military-supply reasons. Work-relief expenditures on rivers and harbors totaled about $525,000,000 from 1933 to 1941.[265] The work-relief motive has not been offered as a reason for government ownership; rather, it has been the occasion for increasing expenditures on whatever kinds of projects were established already as government functions.

But such extensions, in the case of river developments, brought into public attention the possibility of correlating the several functions which such developments might serve. It was argued that electric power, water and soil conservation, irrigation, flood control, and recreation could all be accomplished in some instances by correlating the technical installations so that all these functions would be mutually supportive. It was argued further that, since the optimum correlation of these functions would not be in the interests of private entrepreneurs, it could be accomplished only through government ownership. The arguments against these possibilities under government ownership received their weakest support under conditions in which the necessity for relief from unemployment [144] was apparent to everybody. It was under such conditions that the Tennessee Valley Authority was initiated as an experiment in correlating the functions which a river system might be made to serve by direct planning toward that end.

By the end of 1944, expenditures on the TVA project exceeded $700,000,000.[266] Of this total, $450,000,000 was allocated to power investment and the remainder to a 650-mile navigable channel and to flood control for the entire Tennessee River basin. For the fiscal year ending June 30, 1943, a surplus of $13,000,000 was realized from the sale of electricity after paying all operating costs and $3,000,000 in taxes and after setting aside $6,000,000 for depreciation.[267] On the matter of returns, the Chairman of the TVA has stated:

> Even if the total investment for power, navigation, and flood control - the entire $700,000,000 - were all charged against power, revenue from electricity would repay the entire amount, in less than sixty years.[268]
>
> .....
>
> But there is an additional value that attaches to the power facilities of the river not to be overlooked in resource development. For the total investment of $700,000,000 in river development produces not only power, but also the benefits of navigation and flood control. By combining these three functions in single structures that serve all three purposes, so that costs common to all three may be shared, great economies are produced. Navigation and flood control benefits

---

[263] Harold Kelso, op. cit., p. 56.
[264] Ibid., p. 57.
[265] Ibid., p. 61.
[266] David E. Lilienthal, op. cit., pp. 45-46.
[267] Loc. cit.
[268] Ibid., p. 50.

> have thereby been secured at a lower cost. Similarly, because navigation and flood control are combined in [145] the same structure with power, power is produced more cheaply than if the sole purpose of the structure were power.[269]

The same authority estimates that the rate of money savings in shipping costs alone already exceeds the rate of expenditure in providing both navigation and flood control.[270] Thus the whole project is a "going concern" in the financial sense although its greatest benefits are thought to be incalculable in money terms.[271]

In the case of waterway developments, it seems that the beneficiaries of the enterprises are both willing and able to pay for the benefits. Here, as in the case of roads, the decisions in favor of government ownership resulted from conviction that entrepreneurial motivation would not result in those benefits even though both the ability and willingness to pay were sufficient to meet the full costs of the enterprise, including the costs of the entrepreneurial function of organization and direction. The decisions to organize and direct the development of waterways under government ownership have not been choices as to whether or not the product would be paid for. Rather, they have been choices between alternative methods of organizing and directing certain physical processes.

Those processes do not lend themselves to ordinary [146] market determination for several reasons. First, some functions of waterways cannot be made to bring in a cash return through sales of the product.[272] Flood control, water conservation, and soil conservation are examples. Sales of none of these can be individualized. Second, the optimum correlation of multiple functions cannot be achieved through direct sales of the product. Third, the enterprise sometimes must precede the developments which would permit reasonable use of plant, and the developmental period may be relatively long.[273] Fourth, the money costs of construction and operation sometimes cannot be estimated in advance.[274]

Failure of the entrepreneurial function under private ownership of waterway developments still leaves the problem of why government was chosen as the alternative. The function of government traditionally has been synonymous with the exercise of the power of mandamus and the power of injunction. In the event that either power is involved, government is the most nearly obvious choice. And in any case in which the product cannot be withheld from the individual in order to coerce payment, as in flood control, the direct exercise of both mandamus and injunction is indicated. This is particularly [147] pointed in those instances in which the military factor is important. In addition to the power of mandamus and injunction, and partly because of them, governments have comparatively great financial-investment power. The taxing authority alone assures the financial backing of the entire community. In the case of a sovereign government, the money-defining authority gives unlimited power to pay in terms of its legally designated monetary units. Some waterway developments have involved very large monetary outlays, larger than any non-business institution other than government could make available.

---

[269] Ibid., p. 49-50.
[270] Loc. cit.
[271] Ibid., p. 52.
[272] Harold Kelso, op. cio., p. 64.
[273] Loc cit.
[274] Loc, cit.

Waterworks and Sewage Disposal. Urban communities in the United States require an average daily supply of about 100 gallons of water per capita.[275] Twenty to 50 gallons of that supply must be satisfactory for home consumption; and, since the employment of more than one set of water mains is more costly than purification, the entire supply usually is brought up to the standards of purity required for direct human consumption. Quite obviously, anything which affects the quantity or quality of the water supply immediately becomes a concern of the utmost importance to the entire community.

Of equal importance and concern is the disposal of water after its pollution through use by the community. And [148] closely related to the disposal of waste water is the problem of waste disposal generally. An increasing proportion of waste removal has been waterborne. The earliest sewers were designed for surface drainage only, but more recent engineering developments have permitted the use of sewers for the disposal of most wastes which are soluble or which have a lower density than water and can be reduced to small particles.

The earliest waterworks in the United States were privately owned. Of the seventeen plants in existence in 1800, only one was constructed under government ownership, and one of those seventeen plants became government-owned as late as 1923.[276] From 1800 to 1939, the number of waterworks increased from seventeen to 12,760, and the percentage of those plants which were government owned increased from 5.9 to 73.[277]

Sewage-disposal installations have shown a similar trend except that they were developed later and have been more nearly altogether government-owned. The first comprehensive, water-carriage, sewage-disposal system was started in the City of Chicago in 1856 after that city's representatives reported on a study of the installations in Hamburg, Germany where a similar system had been installed in 1843.[278] In 1938, only [149] 7,490 of 16,303 incorporated communities in the United States had sewage-disposal facilities. Of this number only 255 were privately owned.[279]

The debate over the form of ownership of waterworks was at its height from about 1875 to shortly after the turn of the century. Private companies fell into disfavor in part because of higher rates granted in earlier franchises. Capitalization of earnings under those rates made it extremely difficult to regulate prices, and this resulted in continuous controversy and discontent. As late as 1932, rates of privately owned firms were from 58.9 percent higher for 5,000 gallons per month to 20.7 percent for 1,000,000 gallons.[280]

Health and hygienic considerations have given some impetus to the government ownership of both waterworks and sewage-disposal plants.[281] Public health authorities and private physicians have worked through every educational means at their disposal to impress upon everybody the importance to community health of the proper provision and use of water and waste disposal. But the explanations offered by the experts have run in terms of prophylaxis and physiology, not in terms of effective demand and cost schedules. Medical experts thus [150] have helped in convincing the community at large that the comparative need of an item which directly affects the health of the community is not necessarily reflected in

[275] W. Rolland Maddox, "Water and Sewerage Works," Development of Collective Enterprise, p. 82.
[276] Ibid., p. 84. [277] Loc. cit. [278] Ibid., p. 88. [279] Ibid., p. 90.
[280] Ibid., p. 92 n. [281] Ibid., p. 91.

comparative price and that it therefore may not be elicited through price adjustment. In addition, it has become increasingly apparent that the health of the community is endangered by any of its members being without sanitary facilities. For this reason, demands for extensions of mains into the less densely settled areas have found ready support by people who were not directly affected. Such extensions discourage private investment by increasing the ratio between capital investment and returns from sales.

Savings in the cost of fire insurance have been a further stimulus toward municipal ownership. Water supply has been a heavily weighted factor in the determination of premium charges. And the cost of providing the extra capacity needed for fire protection frequently has been more than offset by savings in the cost of insurance.[282] For this reason, persons who otherwise have had comparatively little interest in a unified waterworks system have favored it. But since a comparatively small fraction of the total volume of water has been consumed in fighting fires, the sales for that purpose by private firms have represented a comparatively smaller return on the corresponding capital [151] investment. As the number of fires is reduced, the sale of water for that purpose is reduced; but money savings to the community are thereby increased. It is not consonant with the interests of a private owner to make capital investments for the purpose of reducing income from sales.

After the development of modern plumbing and sewers and after the discovery of the bacterial origin of many common diseases, it was no longer a question of whether the character of the services should be left to the discretion and efforts of each individual; the only question was what control device was to be used to bring into existence and to operate the physical plants which were themselves specified by the scientific "know-how" of the community. In settling that question, in regard to waterworks and sewage disposal, the conjuncture of circumstances in most instances has ruled in favor of government ownership.

It should be noted that there has been no dearth of private capital for investment in waterworks and in sewage-disposal plants. Bonds for these plants have had a ready market. Also, there has been no indication of inability or unwillingness of communities to pay for the services. The inclusive difference here, as in the case of waterways and in the case of roadways, has been that the private-business organizational pattern has provided no way in which the ability to pay could be exploited without contravening the community's conception of the proper physical operation of the enterprise.

[152] Schools. In 1647, the Massachusetts colony passed a law requiring all towns of fifty or more families to establish common schools because "one chief point of that old deluder, Satan, (is) to keep men from a knowledge of the Scriptures.:[283] Those schools were placed under civil authority but since civil government was in fact a function of the church, the schools were parochial in character. The religious motive remained the dominant influence, though a declining one, until after the beginning of the nineteenth century.

Many civil leaders in the later colonial and early national period were aware of the social and economic significance of organized education. Benjamin Franklin established the American Academy about 1750. Men like Jefferson, Washington, Noah Webster, Rush, Coram, and du Pont gave the problem extended consideration.

> Washington and Madison wished to establish a national university at the seat of the federal government, and Washington left by his will (1799) $25,000 of stock in

[282] Loc. cit. [283] Quoted by Ernest E. Bayles, "Education," Development of Collective Enterprise, pp. 117, 120.

the Potomac River Company to aid in its establishment. Presidents Washington, the two Adams's, Madison, and Monroe repeatedly called the matter of a national university to the attention of Congress, but without success.[284]

The general public was not actively concerned. The ordinary concerns of the average man could be carried on with very few [153] of the knowledges and skills taught in most of the common and Latin grammar schools. Almost all curricula were designed with a view to preparation for classical college studies, and the run of the daily life of the ordinary man offered him very little evidence that such studies could be of much value in relation to those things with which the conjuncture of circumstances forced him to be concerned.

That conjuncture of circumstances was radically changed during the period from about 1800 to 1860. And that was the period during which government ownership of schools was established. The period was one of rapid development in industry and trade and therefore in urbanization. Such developments as railroads and highways and the telegraph accelerated the westward movement and permitted almost immediate incorporation of newly settled areas into the national economy. Immigration, mostly from non-English speaking countries, more than offset westward emigration from the cities, and it filtered into the new areas. Within the period of one man's memory, the nation expanded across the continent and became a single, interdependent economy.

The new physical circumstances placed heavier penalties on illiteracy. Active participation in increasing areas of the economic process became more and more dependent on ability to use the conceptual tools which comprised part of academic curricula. Also, the process of parent-to-child instruction in the use of conceptual tools broke down almost completely in [154] the urban situation in which the production unit was no longer family-operated.

The changed circumstances also brought on a new pattern of citizenship. Men who had never been permitted to vote in the old circumstances found themselves members of governing bodies and therefore responsible for formulating and stating social policy in the new communities. Frontier settlements offered new social, political, and economic ambition to many who had been part-citizens in the older communities. The old states tried to hold their people by broadening the franchise, and thus manhood suffrage became fairly universal except in the slave-holding areas. Final responsibility for deciding questions of public policy was thus shifted more and more to the underlying population.

The need of organized education was there, and the people who were not receiving it were in a position to give effective expression to their need. But the first demands for universal schooling did not come from those people; they came mostly from educated persons who were, in effect, demanding that the untutored poor be taught good manners.[285] Precautions were taken to assure that the conceptual tools, such as language and mathematics, were used toward that end. The poor were not enthusiastic; they resisted by not cooperating. And it was not [155] until the need of skill in the use of the conceptual tools which were incorporated in school curricula for other purposes - it was not until these skills became physically imperative that the general public actively demanded free, universal schooling. When that demand came in the thirties, forties, and fifties of the nineteenth century, political support by the educated portion of the population already had been assured for quite different reasons. Thus, universal schooling came to be very generally approved by all groups.

[284] Ibid., p. 121. [285] Ibid., pp. 118-119.

The demand for universal education through schools could become effective only through political channels. Effective demand, in the market sense, was being satisfied, as always, by private sales; and various institutions other than government had been trying to meet the problem for two centuries.[286] Government support of popular education first took the form of financial aid to other, nonprofit institutions. But where there were numerous organizations, such as various religious denominations, asking for aid, the system caused political difficulties. For example, an interdenominational controversy which developed in New York City prompted the state legislature to stop the fight in 1842 by creating the City Board of Education and by forbidding appropriations to any religious sect.[287]

[156] Development of the American free public school system has been devious and intermittent. The pauper-school idea was the conception of the earliest free schools, and it continued to be associated with public schools in some of the states until about 1870. For example, public schools could charge tuition for children of all but indigent families in Pennsylvania until 1834, and in New Jersey until 1871.[288] The process of dissociating educational opportunity from ability to pay is still going on. Such adjustments as free text books and free immunization against certain diseases have become fairly general. Free dental care, eye examinations and corrections, and even lunches are furnished by many public schools to children of indigent families; and some schools have made these items a matter of individual choice. Also, free educational opportunity still is being extended to higher levels of study. Many public school districts operate free junior colleges, and some districts have established standard colleges and universities which are partly supported from school district tax funds.

Schools for the people at large are uniquely modern. Before the modern machine technology came into general use, there was no time in history in which the social and economic process could not be carried on without organized training of [157] the whole population in the use of conceptual tools. Schools for the military arts and for special ceremonial functions have an ancient lineage. And in those schools were developed many of the conceptual tools of language and mathematics which serve the modern organization of life. But they could be restricted to a fraction of the population because the matters with which the ordinary man was concerned could be carried on without them. Indeed, in so far as academic learning served as a basis of invidious distinction, it was more effective when restricted to as few as possible. In contrast, the development of democratic processes and modern technology require universal schooling on quite different grounds. Those grounds are the continuation of the productive process.

As the modern physical organization of the economy took shape, there were increasing compulsions on the individual and on the community to arrange for increased literacy. Those compulsions were irrespective of decorous behavior or good manners or a fear of untutored masses. They could not be avoided by the attainment of all those virtues on the part of the underlying population and therefore by the alleviation of fear on the part of the overlying population. Regardless of seemly decorum on the part of the masses and placid

---

[286] Loc. cit. [287] Ibid., p. 121. [288] Ibid., p. 119.

confidence on the part of the overlying population, compulsion toward increasing literacy would have remained a palpable fact. The heritage of private schools was in promoting decorum, and they were unfitted by that heritage to meet the problem of educating [158] an entire people for instrumental reasons.

In the case of public schools, as in the previous examples, an essential enterprise was determined by the community on grounds which had no bearings in market price. Here,again, the pattern of income distribution made it impossible to create and to operate the required enterprise through the open market because effective demand in the open market did not correspond to the instrumental need as understood by the community.

Among all of the structural institutions which were available for the purpose, other than the open market, government was the only one which performed the function of organizing and operating the enterprise with tolerable physical success. There seem to have been several reasons for this. In deliberately striving for universal literacy, some direct applications of the power of mandamus and the power of injunction were involved. School techniques were manifestly unpalpable to many pupils, and some parents were inclined or compelled by circumstances of poverty to use their children for money-earning purposes, and this conflicted with scholastic schedules. In either case, alternative corrective measures were not known to the science of education and they were not within the community's pattern of recognized interdependence, and so legal compulsions were used. Also, the required financial outlays were greater than the resources of any non-business institution, other than government, in most local communities. A further circumstance was the fact that government was the only institution which [159] included all of the people. Where several institutions with divergent ends in view tried to handle the problem, partisan controversy over the character of the enterprise was the inevitable result. This was not eliminated by government ownership, but that pattern of control did leave school affairs more nearly open to the entire community and more responsible to community opinion.

Forestry. From time to time since early colonial days in America, some public concern has arisen in relation to forest resources. In 1626, Plymouth Colony passed an ordinance restricting timber exports.[289] The immediately local supply was of great importance as the source of fuel and building material since heavy transportation was restricted to waterways. On several occasions during the colonial period and during the first century of national life, efforts were made to control exploitation of the nation's forests.[290] But the present policy of government ownership and operation of reserve timber supply did not begin to take shape until the last decade of the nineteenth century.

At that time, the American economy was beginning to feel the effects of the disappearance of the frontier. During the first century and quarter of America's national history, [160] one of the most important factors in her economic life was the presence of seemingly unlimited and easily attained natural resources. Unexploited land had been a major factor during 150 years of colonial experience, and it remained a part of the picture more than a century after the attainment of political independence.

On the frontier, the manner of life was very different from that in the more settled areas. The family unit was almost a complete economy. The frontiersman was his own blacksmith, carpenter, tanner, planter, weaver, baker, candlestick maker, and even his own army. His

development of such an array of arts was not in the pattern of his inheritance. Here was a new way of life, and it brought forth new attitudes and a new demeanor - it created the frontiersman as a type. His range of honesties was different; his attitude toward authority was different; his concepts of fair practice were different; his hospitality was different; even his language became different. There was no mistaking a frontiersman when he came to town - he was obviously a frontiersman - and yet the most obvious thing about him was that he was different from every other frontiersman and very different from the people in the old settled communities. It may be said that a common characteristic of frontiersmen was their belief in a man's right to be different.

---

[289] John Ise, "Forestry," Development of Collective Enterprise, p. 211.

[290] Ibid., pp. 211-214.

This type of man was selected by the run of circumstances to lead America's expansion to the west. His concepts set the pattern in each new-settled area. He had to change his techniques [161] as he passed from one type of unsettled region to another,[291] but there was always the "golden opportunity" offered by free resources until the land of America came under private ownership. When T. E. C. Leslie wrote, in 1888, that American conditions lend themselves well to the idea that there is beneficence in the arrangements of the economic world,[292] he was looking at the incomparable development of America during the period when the application of the new technology to comparatively free resources permitted the United States to absorb most of Europe's "surplus" production. This is witnessed by the fact that the United States entered the twentieth century the greatest debtor nation in the world.

But the disappearance of the frontier changed all of this. It brought about a reversal of the government's policy of giving land subsidies to railroads; it prompted attention to humus conservation; it stimulated consideration of the effects of land use on the hydrologic cycle. In short, it brought into focus the necessity of land-use planning.

The frontier heritage of free-use continued to influence national land policy. The West continued to elect congressmen who favored rapid exploitation of timber resources. In 1880, [162] almost all conservation votes in Congress came from New England and from east of the Mississippi and north of the Ohio.[293] By 1891, a general revision of the public land laws was widely advocated, and an omnibus bill for that purpose was passed by Congress. In the closing days of the session, a Forest Reserve Section was attached in a rather devious manner while the bill was in joint committee.[294] The bill passed without extended debate the day before adjournment; but when President Harrison, within a few days, exercised the power to establish timber reserves by proclaiming the Yellowstone National Park Reserve, there was vigorous objection. However, the policy stood, and President Harrison added about 13,000,000 acres to the national forest reserve.[295] When President Cleveland set aside an additional 21,000,000 acres in 1897 on the recommendation of the National Academy of Sciences, "a storm broke loose in Congress."[296] However, in the debate which followed, a bill was fashioned and passed giving the Secretary of the Interior the power to sell timber and to "make provision for the protection of the reserves."[297]

Thus the federal government went into the business of [163] growing timber and selling the product. Under the leadership of Gifford Pinchot the Forest Service established its reputation as a model of administrative efficiency, and after being transferred to the Department of Agriculture in 1905 developed the permanent policy of managing the public forests to provide a sustained yield by selling the mature trees and tending the immature one.[298] In 1911, the policy was extended to buying up and reforesting denuded land in the Appalachian and White Mountains areas. By 1940 there were 227,536,705 acres within

---

[291] Walter Prescott Webb, "The Great Plains and the Industrial Revolution" (paper read at a conference at the University of Colorado, 1929), The Trans-Mississippi West, University of Colorado Press, Boulder, 1930, pp. 309-311.

[292] T. E. C. Leslie, Essays in Political Economy, Hodges, Figgs and Company, Dublin, 1898, p. 139.

[293] John Ise, op. cit., p. 214. [294] Loc. cit. [295] Ibid., p. 215.

[296] Loc. cit. [297] Ibid., p. 218. [298] Ibid., pp. 216-217, 225.

national-forest boundaries, and of that area 176,567,095 acres were being managed on the basis of sustained yield.[299] For that year, the Forest Service was allocated $76,404,234 including $32,929,351 for work relief; and during the same fiscal year, sales amounted to $5,859,183.87.[300]

The physical interconnections between forests and the remainder of the economy are not confined to the provision of timber. Forests protect watersheds from rapid soil erosion and thus prevent silting of stream beds and waterways. By reducing the rapidity of runoff in periods of heavy precipitation, they increase water flow in periods of drought. These factors are important to waterway development for transportation, power, flood control, and irrigation; but watershed protection cannot [164] be sold in the open market. The owner of a forested watershed cannot exact payment from downstream property owners for maintaining his forests and thus rendering them important services. On the other hand, he can strip the watershed of timber and thus cause those same owners to incur damages. The open market has no device by which the culture and sale of timber can be brought into rapport with other aspects of the economy which depend on it in considerable measure.

This basic disrapport comes into sharper focus when it is remembered that the long growing period of most trees forces the commercial operator to consider timber much as the mine owner thinks of coal - private owners most generally “mine” timber.[301] To cultivate a crop of Douglas fir until maturity would require entrepreneurial anticipations to extend over about eighteen or twenty generations, and the anticipated price would have to be astronomical. Manifestly, entrepreneurs cannot operate in such terms. In most cases, the profit motive is best served by stripping the marketable timber in the least expensive manner and diverting the land to alternative employments. In many instances, no marketable alternative is available, and so [165] the land is left unused.[302]

The national forest policy was developed under strong protest from very powerful financial interests.[303] Both “producers” and “consumers” of the commodity objected to nationalization of the forests. Nor did support for the policy come from people who had any peculiar relationship to the industry as consumers of lumber or timber. Conservation of forests was favored most strongly in the northeastern states, but there is no reason for thinking that the East was more dependent on the conservation of forests than was the West. And there is no evidence that any profit-motive enterprise in the East was to be given a peculiar advantage, as compared with any other section, by planning for continued supplies of timber and for the other advantages which were claimed for the policy. In fact, the immediate pecuniary interests and consumer interests of all these groups would cause them to oppose both conservation and planned correlation.

Leadership in the movement was furnished by men who had studied the problem from the standpoint of continued material benefit to the entire economy. Some of them spent their personal wealth in furthering the movement,[304] and there is no evidence [166] that personal gain

---

[299] Ibid., p. 216.

[300] Ibid., p. 218-219.

[301] The growth period of a Douglas fir is about 600 years, western pine 350 years, western larch 500 years, white oak 350 years, lodge pole pine 200 years, ponderosa pine 500 years, tulip poplar 250 years. John Ise, op. cit., p. 221.

[302] This circumstance was what prompted the law of 1911 which established the policy of buying up and reforesting denuded lands.
[303] John Ise, op. cit., pp. 212-214.
[304] Ibid., p. 216-217, 219.

*****

could accrue to any of them through adoption of the policy they advocated. The simple fact is that their arguments were more readily understood in the areas where the results of free-enterprise operations in the timber business were more nearly apparent. People in the eastern states had witnessed the aftereffects of unplanned timber exploitation. They had seen sawmill towns come and go; they had seen floods rush out of the hills; they had seen almost bare-rock watersheds where topsoil once supported thick stands of timber; they had seen clear streams turn into muddy swamps; and they had seen mud flats where river boats once had landed. Those people were not so difficult to convince that unplanned individual exploitation of timber resources did not increase the real wealth of the nation.

The policy whereby the government owns and operates more than 200,000,000 acres of forest land cannot be explained in terms of private gain or consumer interests. And it cannot be explained by a failure of private initiative to supply the market demand for forest products.[305] It seems to have come about through conviction that the industry must be planned directly in reference to the physical needs of the economy on a national scale. That conviction was the result of evidence [167] that the forces of the market impelled private owners of timber land to act in a manner which precluded optimum physical correlation between the provision of timber and the remainder of the economy. Such things as continuation of the supply of timber and other forest products, the conservation of water and soil, flood control, irrigation, the protection of waterways and power sites, the preservation of wild game, and the provision of recreational facilities were recognizably connected with the management of timber lands. But all of those recognized needs not only were not implemented by private management of timber land, they were obstructed by such management.

The federal government was the only control device which could give promise of achieving the necessary correlations. Since the government already had vast areas of timber land in its possession, the minimum dislocation obviously was merely not to dispose of some of those holdings.

Housing. If residential housing in the United States was considered a problem before 1834, no comment to that effect was recorded.[306] Significantly, the first recorded comment was made by a public health officer in New York City.[307] Already, it was beginning to appear, from the standpoint of health, that [168] the general pattern of the evolution of cities could not be left to the guidance of a free market. Twenty years later, the Association for Improving the Condition of the Poor began a model housing project on a limited-dividend basis combining "philanthropy and six percent."[308] In 1867, the first tenement-house law was enacted at the request of the Citizens' Association of New York City.

For almost a century, the limited-dividend idea and legislation against bad housing were the only devices countenanced in efforts to solve the housing problem. Whatever housing reforms were accomplished had to include arrangements for rents which would at least equal full cost. Measures within that limitation accomplished some results, but the slums continued to grow.

---

[305] Of course effective market demand, by definition, always is supplied in the open market. But, up to the time the policy was adopted, there seems to have been no monopolistic decision to withhold production in order to raise price.

[306] Seba Eldridge, "Housing," Development of Collective Enterprise, p. 261.

[307] Loc. cit.
[308] Ibid., p. 262.

The New York State Housing Act of 1926 provided for city and state tax exemption of limited-dividend housing companies. Several companies, including three cooperatives, took advantage of the subsidy and built almost 6,000 dwelling units for which rents were set below the market rate.[309] But the slums continued to grow.

Another attack on the problem was to arrange for government aid to business interests in the real-estate field in order to reduce capital costs.

[169] In 1932, the Reconstruction Finance Corporation was authorized to make loans to limited-dividend companies for the construction of housing projects.[310] Only one such loan was made. The Federal Home Loan Bank Board was created the same year.[311] Its immediate purpose was to protect local building and loan associations and other lending institutions from bankruptcy. The Board was empowered to make loans to local firms which could offer real- estate mortgages as security. But public confidence in local saving-and-loan associations was not restored until two years later when the Board was given authority to insure individual deposits up to $5,000. This was accomplished through the creation of a subsidiary, the Federal Savings and Loan Insurance Corporation. But the most important government aid to the private financing of residential construction has been the insurance of mortgage loans through the Federal Housing Administration.[312] From 1934, when it was created, to 1940, the FHA insured private loans totaling $4,076,264,676.[313] By 1940, FHA was insuring and thus assuming almost all risk in the financing of 42 percent of all new single-family homes.[314]

[170] The services offered by these agencies have enabled them to influence interest rates, terms of payment, design of building, and neighborhood planning. They generally are credited with bringing housing within reach of the lower middle-income brackets and with raising the standards of residential construction. Also, it has been expected that by raising the standards of construction and increasing the convenience of purchase and by reducing capital costs the supply of standard dwellings would be increased and thus cause a movement away from the slums. But the slums have continued to grow.

For more than a century, there has been a constantly increasing realization that the existence of slums imposes inescapable penalties on the entire economy. That realization has been augmented as the relevant data have been collected and brought into view. But it never has reached the point in public comprehension which would stimulate direct corrective action. The first specific provision for the physical destruction of slums had to await the convergence of the problem itself with another problematic situation which did arouse direct action. The other problematic situation was severe, continued, and widespread depression.

In the depression of the 1930s, the American people demanded corrective action. During the first three years of that period, corrective measures were restricted largely to making available capital funds and to raising the propensity to consume. The former was the intention of such agencies as [171] RFC, FHLBB, and FLB; the latter was attempted through personal appeals by lenders and through advertising campaigns. Both kinds of efforts were continued after a change of administrations in 1933; but, in addition, a policy of direct relief and public works was inaugurated. The National Industrial Recovery Act of 1933 included a minor clause

---

[309] Loc cit.

[310] ibid., p. 264.

[311] Loc. cit.
[312] Ibid., p. 265.
[313] Loc. cit.
[314] Loc. cit.

which permitted the construction of low-rent and slum-clearance projects out of the appropriation for public works.[315] The pressure of the general emergency and the fractional character of the housing provision were circumstances which favored a minimum of objection to the prospect of public housing as it was prescribed in the bill. Congress displayed very little interest in the housing clause, and it was enacted as part of the general bill for industrial recovery.

The Housing Division of the Public Works Administration set about solving the legal and technical problems involved in the inauguration of public housing as a slum-clearance and an employment-generating enterprise. Court decisions holding that PWA could not condemn land for public housing forced the agency to ask for state legislation creating local public-housing authorities which could condemn land for such purposes.[316] The Housing Division continued its activities until 1937 when it was replaced by the United States Housing Authority. At that [172] time, $134,000,000 had been spent on 51 projects in 36 cities and on two projects in insular possessions.[317]

The USHA was authorized under the 1937 act to give financial and technical assistance to local housing authorities.[318] The authority could make loans up to 90 percent of total project cost, but all such loans must be repaid with interest. One condition of such loans was that the local authorities must arrange for slum clearance which would equal the housing capacity of the projects. Another condition was that the local "subsidy," either through tax exemption or cash payment to the local authority, must be at least twenty percent of the USHA annual grants in aid which may be as high as 3.5 percent of total construction cost but which usually approximately cover interest on capital investment. Since aggregate rents for each project must cover operating costs including replacements, maintenance, and repair, the federal subsidy is in effect a government guarantee that interest on all bonds will be paid. And, to the extent that the federal government holds the bonds, the federal subsidy is, in effect, the government paying itself interest. The local and federal "subsidies" have reduced the necessary rents to operating costs plus perpetual maintenance. On this basis, the average monthly rent in 1941 was $12.79 per [173] family dwelling unit.[319] By establishing rental schedules on the basis of family income, most local authorities have been able to accept some very low-income tenants. At the end of 1940, seventeen percent of all tenant families in USHA projects had incomes under $600 per year, and 44 percent had yearly incomes under $900. Only seven percent were receiving as much as $100 per month.[320]

In February of 1942, the USHA, together with other government agencies engaged in the construction of housing, was incorporated into the Federal Public Housing Authority which now administers almost all government-owned housing. In the low-rent, slum-clearance program, the FPHA is continuing the USHA pattern essentially unchanged.

The policy of the FPHA is to avoid all competition with private investment in the construction of housing. No family is accepted as a tenant if its income permits buying or renting adequate housing in the open market, and continued occupancy is dependent on the same condition. Thus publicly owned housing in the United States is intended to provide

---

[315] Ibid., p. 266.

[316] Loc. cit.

[317] Ibid., p. 267.
[318] Loc. cit.
[319] Ibid., p. 268.
[320] Loc. cit.

adequate housing for people who are unable to secure it in the open market. Up to 1941, public-housing provided for about 190,000 families.[321] But estimates of the number of [174] families for whom the open market could not provide adequate housing vary from six to seven million.[322] Obviously, if slums are to be destroyed, or even arrested, through public housing, the effort will have to be greatly expanded.

Public housing, like public forestry, was initiated as a minor phase of a more inclusive program. Gradually, the general public had become convinced that the open market did not arrange the housing situation in the best interest of the community. For a century, studies of the problem had accumulated evidence that there were inescapable connections between inadequate residential facilities and the general welfare of the entire community, including the well-housed. Certain connections, in the sense of consequence, became fairly evident through such things as disease, crime, and fire hazards; but the causal antecedents of the situation obviously were very complex, so complex that students of the problem, even yet, hardly have begun to attain a systematic analysis. Complexity forced the analysis to the level of general community planning. And when planning for the general level of employment was engendered by economic depression, housing had become acceptable as a phase of that planning.

Here, again, the community at large was convinced by the run of the facts that the open market in housing interfered with the economic and social process.

[175] Housing differs from the preceding examples in that the government-owned item is for the exclusive use of an individual person or family. Community ownership of items which are used by the entire community is not a rarity in capitalistic economies, but housing is perhaps the only instance in which a privately consumed item is government-owned during its consumption. This dispels the hypothesis that an enterprise must be one of public use in order to qualify for ownership by a democratically organized government.

The failure of the private provision of housing for low-income families has not been a failure in the sense that the enterprise could not be operated at a profit. On the contrary, the very poorest housing often has given the highest rate of net returns on capital investment. The failure has been, rather, that the character of the product under private ownership has not permitted the enterprise to perform its function efficiently in the instrumental sense. The judgment of failure has rested on non-price evidences entirely.

Government ownership of low-rent dwellings seemed to be unavoidable if the problem was to be solved at all. To acquire the necessary land and to destroy slum dwellings required direct exercise of the power of mandamus and injunction. Also, the financial requirements exceeded the resources of any non-government institution other than business enterprise.[323]

[176] It should be pointed out that the initiation of public housing, like that of the previous examples, was accomplished with minimal institutional adjustments. The effort of federal agencies to exercise the right of eminent domain for low-rent housing was thwarted in the courts with the result that local jurisdictions were created by state legislation with authority to own the housing projects. Federal financing was arranged in the form of loans to the local authorities. Thus federal-government financing was combined with local-government ownership without disturbing the current pattern of legal authority. Bookkeeping transactions were devised whereby federal “subsidies” to meet the interest on local-authority bonds held by the federal

[321] Ibid., p. 267.

[322] Ibid., p. 277.

[323] Estimates of the investment required to replace all American sub-standard dwellings range from twenty to forty billion dollars, depending on the definition of “standard,” the land policy, and the bookkeeping system used in the estimates. Ibid., p. 274.

government were paid to the local authority and then repaid to the federal government. The propriety of bonds bearing interest thus was not infringed.

PATTERN

No one of the principles or combination of the principles of government ownership which have been proposed in economic literature is common to all of the examples cited in this study. For example, there is no reason to think that forestry and [177] housing were tending toward monopoly when they were established as government-owned enterprises. For another example, inability of private owners to make a profit because of the relation between cost and demand schedules under private ownership certainly does not apply to waterworks, forestry and housing; and it is not altogether certain that it applies to schools or even to highways. Also, there is no evidence in any example that private enterprise has lacked the required capital funds. Such factors as universal use, conservation of natural resources, extreme postponement of returns, and military strategy have played parts in particular cases, but none of them has been common to the whole sample.

Quite clearly, the economic enterprises which have become government-owned in the United States cannot be characterized in terms of a particular type of physical process or equipment or organizational structure; and they cannot be explained in terms of rates of profit or loss to private owners or by ratios between operating and capital costs or by a dearth of private capital funds.

If the phenomenon, as a category, is to be explained at all, it must be regarded in terms of its interconnections with the whole of the economic process. The least inclusive and most specific level of generalization which makes the run of the facts in each instance must comprehend the determination of purposeful choices which are made by the community. At that level of generalization, pattern becomes apparent.

[178] First, a problematic situation arises in relation to an economic enterprise. What constitutes the problematic situation in each instance is divergence between the possible contributions of the enterprise to the general economic process and the actual performance in that regard under non-government ownership; what occasions the problematic character of the situation is a change in the physical circumstances relating to the enterprise on the one hand and the concurrent maintenance of existing control arrangements on the other. In other words, a problematic situation is occasioned by a failure to adjust the control mechanism in correlation with other aspects of the enterprise. This is tantamount to saying that if the control problems relating to an economic enterprise are to be resolved at all, the answers must be in terms of instrumental efficiency. Second, government ownership of the enterprise in question becomes recognized as a possible alternative control device.

The compulsions of the problematic situation stimulate general public concern about proper control arrangements for the enterprise. As the compulsions bear more heavily and as public concern and consideration increase accordingly,

alternative control arrangements are proposed. In some instances, for example schools and low-rent housing, several alternative control devices are tried. But as long as disrapport between physical possibility and actual performance continue to stimulate public consideration, further alternatives are brought into view. Government always has been among the available [179] alternatives; and when the public

comprehension of the problem settles on government as the most desirable control device, arrangements to that effect are brought about through political action.[324]

There is a third factor which is common to all the examples cited in the present study and which is borne out by general observation. In establishing government ownership of an enterprise, institutional adjustments are held to the minimum. In no instance do the adjustments exceed those which are necessary in order to resolve the problematic situation.

[324] It is presumed here that the people are the ultimate sovereign in the body politic. It would seem that the pattern of adjustment presented here holds to the degree in which political institutions permit the popular determination of social policy. Presumably no society ever existed in which some degree of popular sovereignty did not exist.

[180] CHAPTER VI

CONCLUSIONS

The conclusions to be drawn from the present study are simple, and they are fairly obvious in view of what has been presented in the preceding chapters. Some of them are implicit in the context of their presentation, and some of them have been explicitly stated. At this point, it is convenient to present them in the order of their emergence in the study proper.

The Classical Theory as the Basis of Analysis

It has been shown that the classical general theory offers no basis for a consideration of government ownership in a capitalistic economy. And so it is that, although the major spokesmen for the classical general theory always have favored the government ownership of some economic enterprise, they have been forced to go outside their general theory in order to explain their position on that matter. This is not accidental. A central content of the classical general theory, from its first inclusive statement in The Wealth of Nations to its last reformulation in Marshall's Principles, is that the only way in which the real and basic economic factors can be judged is [181] through the adjustment of price in a free and open market. Then the circumstance that the spokesmen for the general theory have been forced to found their explanation of government ownership outside of the price structure means more than just an excursion in search of extended evidence. In fact, it is a disavowal of the central content of that general theory by its foremost spokesmen. For it is quite clear that to plan the creation and operation of an economic enterprise under government ownership requires the assumption that there are other ways than free-market price in which the basic economic factors can be judged.

A corollary of the dictum that free-market price is the only way in which the basic economic factors can be judged is the dictum that the free market is the only structural institution which permits the logical administration of an economic enterprise. This is necessarily the case since administration is nothing more than the making of judgments which determine organization and operation. Thus the assumption of a particular structural institution is germane to the classical general theory. Here again the classical theorists have had tacitly to disavow their general theory in order to find any warrant whatever for the government ownership of any economic enterprise.

Each example of government ownership cited in the present study is an instance in which the community, including almost all economists, decided that the price theory of valuation [182] did not hold and that there were alternative structural institutions which could be used to give effect to the decision. The decision in each instance was made in reference to the instrumental functions of the enterprise and to the comparative efficiency of structural institutions as alternative control devices.

The classical general theory not only furnishes no basis for solving the problem of government ownership, but also denies the possibility of logical consideration of the problem.

The Underconsumption Theory as the Basis of Analysis

The underconsumption theory is an analysis of the internal workings of the market process. Its claim to generality was deleted by the Keynesian development in which the basic economic forces are found not to correspond with the pecuniary accountancy. In the Keynesian analysis, as well as in the underconsumption theory proper, the open-market process is found to be defective in that it cannot provide sufficient effective demand to maintain full employment of the factors of production. The theory further indicates that effective market demand,except under "novel circumstances," is a constantly decreasing factor. Then it follows that since the free-market process cannot, alone, maintain the requisites of its own continuance, [183] deliberate measures must be taken to correct the deficiency if the economic process is to continue.

Government is the only modern structural institution with the financial resources required to correct that deficiency. Government is also the only modern structural institution the control of which is, to any considerable, degree, in the hands of the people upon whom the incidence of unemployment falls most heavily. It is therefore to be expected that at least some measures to relieve unemployment would be taken through government,

Most government measures for this purpose have taken the form of direct relief to unemployed persons and increased expenditure on public works. Generally, the public works have been those which were already recognized as government functions; but when the requirements for increased expenditure have pressed heavily on the outlets already established, new government-owned enterprises have been instituted. Public housing and some aspects of waterway development were begun under such circumstances.

The Underconsumption analysis does not explain how or why economic enterprises become government-owned. But it does explain the circumstances under which resistance to the government ownership of an economic enterprise is minimal.

The Institutionalist Theory as the Basis of Analysis

Alternative to the classical theory, the only non-revolutionary economic analysis which still can claim generality is the institutionalist theory. It is the only such theory which purports to set forth the inclusive and continuing factors in the economic process.

It has been pointed out that the institutionalist theory contains two principles which may be applied to the problem of government ownership in a capitalistic economy. The principle of technological determination is simply that economic problems can be solved only by adjusting the institutional structures involved in the problems so as to bring them into instrumentally efficient correlation with the technological aspects of the problems. The principle of recognized interdependence is that the pattern of interdependence which is recognized by the persons whose actions are correlated in a structural institution specifies the character of any adjustments in the institutions.

The run of the facts in the determination of government ownership in the examples cited in the preceding chapter conforms with these two principle. In fact, the pattern of adjustment which is seen to be common to all of the examples is almost identical, even in statement, with these principles. The evidence here is unexceptionally in support of the institutionalist general theory.

A third element has been observed in each instance of [185] a shift of government ownership. In all cases the institutional adjustments have been minimal in both degree and number. Adjustments which are necessary to the solution of the instrumental problem in view are the only ones which have been made. Adjustments which might increase the efficiency of the operation under government but which do not necessarily enter the case as a problematic

factor have been avoided. If the evidence of further inquiries supports the same observation, a third general principle may be indicated.

Pattern and Process

The present study originated as an effort to find the determinants of government ownership in a capitalist economy and to use the pattern of those determinants as a referential check for general economic theories.

The determinants of government ownership display pattern only in the sense of process or sequence. They display no pattern in the sense of a particular arrangement of incidental circumstances or characteristics which are common to all government-owned enterprises. Such circumstances vary from enterprise to enterprise and are observable in none-government- owned enterprises. The pattern of adjustment can be explained only in terms of the process of adjustment.

The process of adjustment in the examples considered in the present study conforms to the institutionalist theory which is itself a general theory of the economy as a process.

BIBLIOGRAPHY

Ayres, Clarence E. The Theory of Economic Progress, The University of North Carolina Press, Chapel Hill,1944.

Chamberlin, Edward, The Theory of Monopolistic Competition, Harvard University Press, Cambridge, 1938.

The Constitution of the United States of America.

Eckard, E. W., Economics of W. S. Jevons, American Council on Public Affairs, Washington, 1940.

Eldridge, Seba, et. al. Development of Collective Enterprise, University of Kansas Press, Lawrence, 1943.

Encyclopedia of the Social Sciences, Vol. VII, The Macmillan Company, New York, 1937. Haney, Lewis H. History of Economic Thought, The Macmillan Company, New York, 1936.

Homan, Paul T. Contemporary Economic Thought, Harper and Brothers, New York, 1928. Jevons, W. Stanley. The Principles of Science, Macmillan and Company, London, 1887.

_____, The State in Relation to Labour, Macmillan and Company, Ltd., London, 1910.

_____, The Theory of Political Economy, Macmillan and Company, Ltd., London, 1936.

Keynes, John Maynard. The General Theory of Employment Interest and Money, Harcourt, Brace and Company, New York, 1936.

Leslie, T. E. C. Essays in Political Economy, Hodges, Figgs and Company, Dublin, 1888.
Lilienthal, David e. Democracy on the March, Harper and Brothers, New York, 1944.
Malthus, Thomas Robert. An Inquiry into the Nature and Progress of Rent, and the Principle by Which It is Regulated (edited by Jacob H. Hollander). The Johns Hopkins Press, Baltimore, 1903.
[187]Malthus, Thomas Robert. First Essays on Population, Macmillan and Company, Ltd., London, 1926.
_____, Principles of Political Economy with a View to Their Practical Application (2nd edition, W. Pickering, London, 1836), The International Economic Circle, Tokyo, 1936.
Marshall, Alfred. Industry and Trade, Macmillan and Company, Ltd., London, 1919.
_____, Memorials of Alfred Marshall (edited by A. C. Pigou), Macmillan and Company, Ltd., London, 1925.
_____, Money, Credit, and Commerce, Macmillan and Company, London, 1923.
_____, Official Papers (published for the Royal Economic Society), Macmillan and Company, London, 1926.
_____, Principles of Economics, Macmillan and Company, Ltd., London, 1939.
Mill, John Stuart. Essays on Some Unsettled Questions of Political Economy, Longmans, Green, Reader, and Dyer, London, 1874.
_____, Principles of Political Economy with Some of Their Applications to Social Philosophy (edited by Sir W. J. Ashley), Longmans, Green and Co., Ltd., London, 1926.
Montgomery, R. H., "Government Ownership and Operation of the Electric Industry," Annals of the American Academy of Political and Social Science, January, 1939.
_____, "Government Ownership and Operation of Railroads," Annals of the American Academy of Political and Social Science, January, 1939.
Pigou, A. C. Economic Essays and Addresses, P. S. King and Sons, Ltd., London, 1931.
_____, The Economic of Welfare, Macmillan and Company, Ltd., London, 1920.
_____ Wealth and Welfare, Macmillan and Company, Ltd., London, 1912.
Ricardo, David. Notes on Malthus' Principles of Political Economy, The Johns Hopkins Press, Baltimore, 1928.
[188] _____, The Principles of Political Economy and Taxation, (Everyman's Library Edition) E. P. Dutton and Company, Inc., New York, 1911.
Robbins, Lionel Charles. The Nature and Significance of Economic Science, Macmillan and Company, Ltd., London, 1936.
Roll, Erich. A History of Economic Thought, Prentice-Hall, Inc., New York,

1939.
Scott, William A. The Development of Economics, D. Appleton-Century Company, Inc., New York, 1933.
Senior, William Nassau. An Outline of the Science of Political Economy, Farrar and Rinehart, Inc., 1939.
_____, Industrial Efficiency and Social Economy (original mss. arranged and edited by S. Leon Levy), Henry Holt and Company, New York, 1928.
Smith, Adam. An Inquiry in to the Nature and Causes of the Wealth of Nations (edited by Edwin Cannan), The Modern Library, New York, 1937.
Veblen, Thorstein. Absentee Ownership and Business Enterprise in Recent Times, The Viking Press, New York, 1938.
_____, Essays in Our Changing Order (edited by Leon Ardzrooni), The Viking Press, New York, 1934.
_____, Imperial Germany and the Industrial Revolution, The Viking Press, New York, 1939.
_____, The Place of Science in Modern Civilization, B. W. Huebsch, New York, 1919.
_____, The Theory of Business Enterprise, C. Scribner's Sons, New York, 1927.
_____, What Veblen Taught (edited by Wesley C. Mitchell), The Viking Press, New York, 1936.
Webb, Walter Prescott. "The Great Plains and the Industrial Revolution," The Trans-Mississippi West, University of Colorado Press, Boulder, 1930.
West, Edward. Essay on the Application of Capital to Land; with Observations Showing the Impolicy of Any Great Restriction of the Importation of Corn, and That the Bounty of 1688 Did Not Lower the Price of It (edited by J. H. Hollander), The Johns Hopkins Press, Baltimore, 1903.

****