

THE CONCEPT OF COMMUNITY DEVELOPMENT

by Karl A. Fox¹

I. Introduction

Community development means different things to different people. It can involve the construction or rearrangement of physical facilities -- sewer systems, roads, and bridges. Community development may include expansion of the economic base through locating new manufacturing plants or other sources of employment in the community. Community development may involve organizing people and groups for social or political action to improve various aspects of living, both economic and non-economic.

This chapter reflects my own preoccupation with the economic aspects of community development. The other aspects may be equally important, but I am not particularly qualified to discuss them.

II. The Economic "Contents" of a Community

For the present, at least, I prefer not to try to define a "community." Let me simply start by considering a geographical area -- for concreteness, an area no larger than an Iowa county -- and taking an inventory of the sorts of things we find in it that are of interest to people.

First, the area contains a set of households. Each household occupies a dwelling unit. Its members are all engaged in the process of consuming goods and services, and some are also engaged in economic activities in connection with another sort of unit which we shall call a "firm."

Second, the area contains a set of firms. I shall use these words much more broadly than is customary. Thus schools, churches, police stations, doctor's offices, law offices and farms will all be included in the list in addition to private nonfarm businesses run for profit. In brief, anything that is not a household is a "firm" for our present purposes.

A firm uses or combines factors of production (labor, capital, land and management) in order to produce goods or services having value. We do not pretend here to set a price on hymns and sermons, or on the warmth of a friendly handclasp in a social club. But private nonprofit organizations do use resources and their members or sponsors do spend part of their incomes for the services they provide. Schools require expensive masonry and a staff of teachers. They are definitely a part of the economic as well as the cultural life of the area.

Third, the area contains a set of economic relationships. These link together households (in their dual capacities as consumers and producers) and firms. The firms are also linked economically with one another in various ways.

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These economic relationships can be summarized in terms of "area income and product accounts." And these accounts portray for the area the same sorts of spending and saving relationships and flows of income from firms to owners of factors of production that are included in the well-known national income accounts for the United States as a whole.

A more detailed and intricate description of these economic relationships can be given by an input-output table of the type pioneered by W. W. Leontief some 30 years ago. An input-output table mainly reflects the flows of goods and services between firms. It reflects the flow of chemical fertilizers, gasoline, diesel fuel and the like from farm supply firms in the area to farmers; the flow of farm products from farms to grain elevators, processing plants or shipping points in the area; and the flow of some portion of the processed food products into retail stores and thence to households in the area. As goods flow from one firm to another, money flows in the other direction. Hence, both the technological and the financial interrelationships of households and firms in an area can be shown by means of an input-output table.

It would be possible to describe the economic relationships in terms of the production possibilities of each firm in the area. This would require as precise an inventory of the facilities and resources of every "firm" in the area as would normally be made by a private business for the guidance of its own management.

Fourth, the area contains a set of social relationships between people and groups partly independent of the economic relationships just described.

Fifth, the area contains a set of political institutions -- that is, agencies exercising some sort of public authority. School districts, drainage districts and other special purpose districts might be wholly or partly included in the area. Other political institutions and establishments, such as the county courthouse, might or might not happen to fall within the particular area we are considering.

Sixth, the area contains physical or natural resources in the broadest sense. In most Iowa counties, the households, firms and institutions rest ultimately upon soil and climate -- the agricultural base.²

In taking this inventory of the contents of an area, we should, of course, note that economic linkages also extend from the area to households and firms in other areas. So do linkages and communications with social and political institutions in other areas.

^{2/} But note that soil and climate play a broadly permissive role with respect to the kinds of establishments and institutions human beings develop -- not a narrowly determining one. Indian hoe culture, subsistence farming and large-scale mechanized farming would be equally compatible with a given soil and climate combination.

The above inventory simply describes the contents of an area. To explain why the relationships are as they are and to provide some basis for predicting how these relationships might change as the result of community development activities, we must consider the motives or goals of the households and firms in the area. For the moment, let us simply say that each household and firm may be regarded as trying to achieve certain goals in the face of legal, economic and other limitations. Some may be bending every effort to achieve a maximum degree of goal attainment, while others may be content to just "get by."

III. The Nature of Goals

The goal of a household may be thought of as the achievement of maximum satisfaction from the use of any specified level of income. To the extent that the members of the household can choose to increase their income (by working longer hours) at the expense of reducing their leisure for social, cultural or other activities, we may say that each household tries to maximize its satisfactions on the basis of those natural or acquired endowments of its members that can be used to earn income and command goods and services.

Each business firm or farm may be assumed to have the goal of maximizing its profits within the limits of its initial resources, the demand for its outputs and the relative price of inputs. Small firms selling on a national market have no control over the prices of outputs and inputs. But a retailer, buying his goods at fixed prices and selling them in a small area, will typically face a downward sloping demand curve for his wares -- to increase his volume of sales he must reduce his prices.

The various public enterprises may also be regarded as trying to maximize something. Downs has suggested that the party in power in an area may attempt to maximize votes by allocating public funds in such a way that the votes gained by the last \$1,000 of public expenditure on each particular object (schools, garbage disposal, streets, fire protection, and the like) just equals the number of votes lost by the means (principally taxes) used to finance the expenditures.³ Although this may sound cynical, the results may not be bad if citizens are alert and well informed.

A more idealistic view -- but also a more paternalistic one -- is that public enterprises try to maximize service to the residents of the area. This implies that public officials in power try to maximize, from given resources, the output of services which the officials believe the people want or which are "good for the community."

Finally, private nonprofit "firms" in an area may be regarded as trying to maximize net benefits rendered to their members; this would be attained if the services provided by the last \$100 of "inputs" were worth precisely \$100 to the

³/Anthony Downs, An Economic Theory of Democracy, Harper & Brothers, New York, 1957.

supporting members. That is, after enjoying the services, the members should feel that they have made a wise choice by allocating \$100 to the nonprofit organizations rather than spending that amount on additional goods and services for personal consumption.

In the real world, ignorance, uncertainty, apathy and "capital rationing" cause many households and firms to deviate materially from maximizing behavior. But we must take such behavior into consideration in knowing what changes associated with community development activities actually represent improvements.⁴

IV. Interrelationships Between Goals

So far, we have assumed that each household and firm is trying to maximize attainment of its own goals without regard for or interference from the activities of other units. Actually, the activities of one unit may affect the success of other units in a number of ways.

For example, the goals of different firms in the same industry may be competitive in the sense that each firm tries to increase its efficiency, producing larger amounts of product with given resources or given amounts of product with fewer resources. If competition is atomistic -- that is, if there are many relatively small input suppliers and many relatively small producers so that the action of a single supplier or single producer has no perceptible influence on the market, the goal-maximizing behavior of all tends to accelerate economic growth and the welfare of consumers generally. Competition may be impersonal, as when two neighboring farmers are selling a standard commodity on a national market. The quantity sold by each farmer has no perceptible influence on the national price level and hence has no adverse influence on the price received by his neighbor.

However, competition may also be highly personal, as in the case of two supermarkets competing for the patronage of a fixed number of customers in a small town. In this situation it is perfectly clear that the goal-maximizing efforts of each supermarket affect the sales made and profits obtained by the other.

The goals of individual households may be influenced by the purchases of their neighbors. For example, a family earning \$4,000 a year might feel "better off" living in a community where the average income was \$3,000 than in a community where the average income was \$5,000. However, the direction of this effect cannot always be anticipated. Depending upon the family's goals, its members might decide that they were better off in the high income community because of better schools and other public services.

Sometimes different goals of the same household or the same firm may be conflicting. Theoretically, goal conflicts within a household or firm can be identified and eliminated. In a household, conflicting goals subtract from the level

^{4/} If conscious planning is done at all -- by housewives, businessmen or government officials -- it is hard to find a reason for not making the best choices permitted by our available information.

of utility otherwise attainable; in a firm, conflicting goals lead to less than maximum profits. In public enterprises, conflicting goals reduce the level of public service or satisfaction resulting from the expenditure of given funds.⁵

There are also many cases in which the goals of different maximizing units are complementary. For example, all of the retail business establishments in a small town would likely gain from an increase of 10 percent in the town's population. Most of these business establishments, if not all, would likely gain from the establishment in the town of a new firm which provides a line of goods or services not directly competitive with those of any previously existing firm. The new firm would widen the "product line" offered by the town as a shopping center and tend to attract additional out-of-town customers, who would then also patronize some of the other firms. Similarly, most households in an area would gain if a consolidation of school districts increased the quality of instruction and/or reduced costs.

Academic economists are traditionally timid about trying to change peoples' goals. Politicians, clergymen, labor leaders, lobbyists and advertising men are less reticent. The right to try to influence the goals of our fellow citizens through the written or spoken word is a precious feature of our democratic way of life. Freedom of speech, freedom of assembly and freedom of the press are designed to expedite a flow of facts and arguments which may lead to a rearrangement of the goals of other citizens.

The American people will be doing some extensive soul-searching and reformulating of goals during the 1960's. We cannot afford here to get too far away from our community development focus. But to illustrate the range of goals that may be of concern to us, let me briefly list the major headings in The Report of the President's Commission on National Goals, which was transmitted to the President of the United States on November 16, 1960.

The headings were as follows:

The individual, equality, the democratic process, education, the arts and sciences, the democratic economy, economic growth, technological change, agriculture, living conditions, and health and welfare. These sections deal with "goals at home." "Goals abroad" include helping to build an open and peaceful world, the defense of the free world, disarmament and the United Nations. This listing is too terse to give more than a hint of the goals expressed by the commission; the headings do indicate the wide range of areas of concern in which the commission feels that new goals and/or reaffirmations of traditional goals are needed.⁶

^{5/} Philosophically we are on uncertain ground if we try to add up the satisfactions of different individuals. Thus economists often prefer to side-step this issue and ascribe the "welfare function" or "objective function" to be maximized by government actions to the mind of a single policy maker or official.

^{6/} Goals for Americans: Programs for Action in the Sixties (The report of the President's Commission on National Goals, Prentice Hall, Inc., 1960.

V. The Theory of Economic Policy

We have described the economic and social contents of an arbitrarily designated area and said something about the goals of households and firms.

We shall now introduce a more tightly integrated framework for analyzing goal-directed behavior. The framework I shall use was developed by the Dutch economist Jan Tinbergen in a series of books published between 1952 and 1956.⁷ Tinbergen was primarily concerned with the development of consistent economic policies at the national level -- in the first instance, for the Netherlands government. For several years Tinbergen was director of the Central Planning Bureau of the Netherlands, an agency roughly corresponding to our own Council of Economic Advisers.

Tinbergen's theory of economic policy was most clearly developed for the case of "short-run quantitative economic policy." However, his model also provides a conceptual starting point for discussing non-economic policies and long-run or qualitative economic policies.

I have tried to present Tinbergen's framework visually in Figure 1.

For concreteness, let us assume that we are looking at the U. S. economy from the standpoint (say) of a chairman of the Council of Economic Advisers, who acts as a technical economic adviser to the President.

First we must have an accurate knowledge of the workings of the economy. Certain economic variables will generally constitute the targets or goals of economic policy -- the level of employment, the price level, the level of real consumer income per capita, the distribution of income, the balance of payments, and perhaps others. Assume for the moment that values have been specified for each of the target variables for the coming year -- let us simply say they are targets that the President, presumably after much consultation and consideration of alternatives, would like to see the economy achieve.

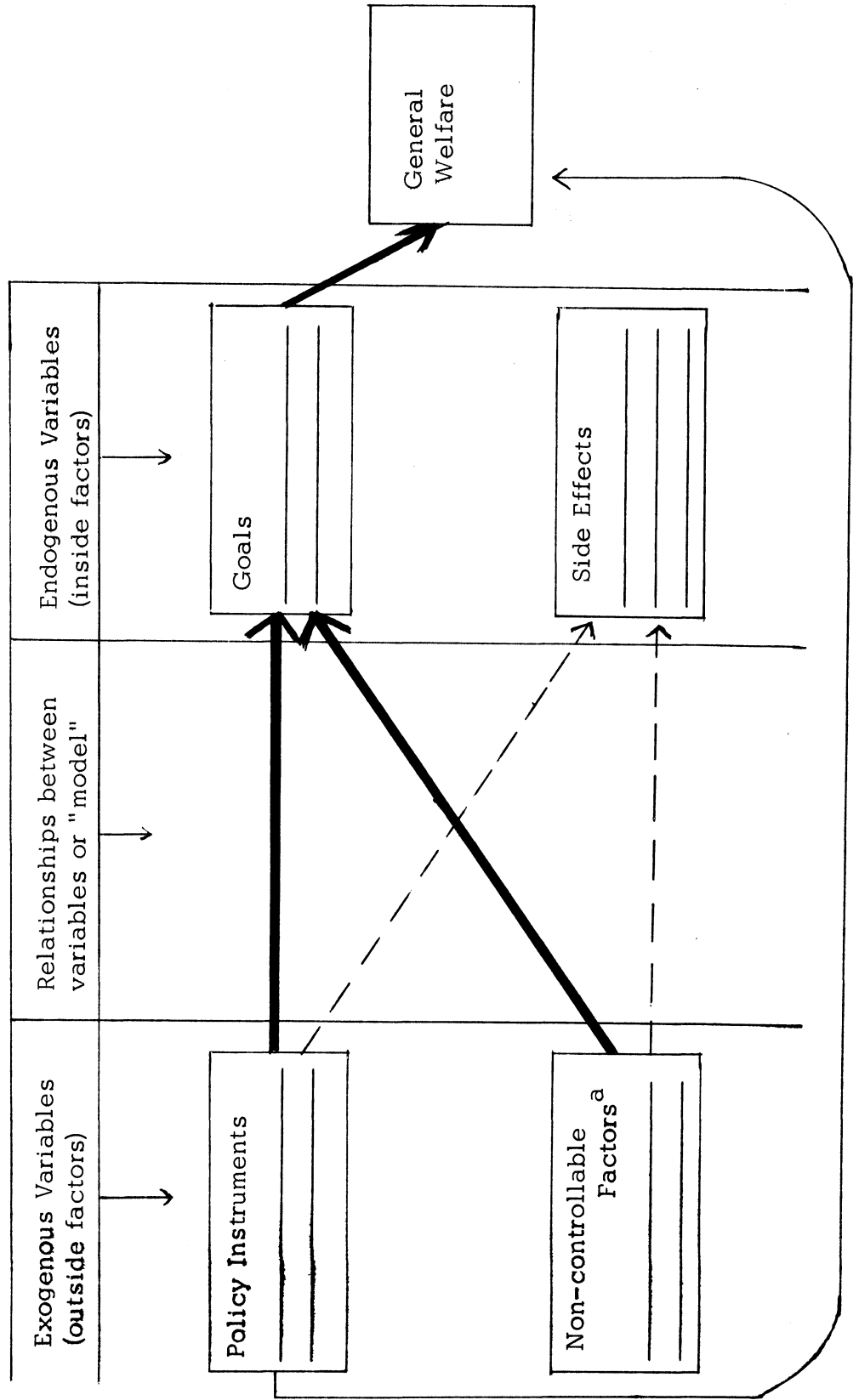
The actual economic performance of the economy will depend upon two sorts of factors. First, there are a number of factors which are not controllable by the government of the United States. These would include economic and political developments in other countries; the number of persons in the U. S. labor force; the stock of factories, equipment and inventories on hand at the present moment; the total U.S. population; weather as it affects crop production, and perhaps others. As the policy maker cannot change these factors, the best he can hope to do is to forecast them for the year ahead. If we also know the net effect of a change in any one of the noncontrollable factors upon each of the target variables, we can forecast (with greater or less accuracy) the levels that each of the target variables will likely attain if there is no change in the present economic policies.

⁷/ Jan Tinbergen, On the Theory of Economic Policy, North-Holland Publishing Co., 1952, 78 pp.

_____, Centralization and Decentralization in Economic Policy, North-Holland Publishing Co., 1954, 78 pp.

_____, Economic Policy: Principles and Design, North-Holland Publishing Co., 1956, 276 pp.

Figure 1
Theory of Economic
Policy



^a/not subject to control by the policy maker.

If we are lucky enough to find the various sectors of the economy moving in the right directions at the right speeds, we may achieve all of our goals without special effort. However, we have at our disposal an array of policy instruments which we can use to influence the target variables in the desired direction if it appears that the noncontrollable factors will not do the job for us. These instruments include all the actions legally permitted to the federal government and its agencies which will have some effect on the course of the economy. The federal government can, in principle, increase or reduce its rate of spending on various programs; it can increase or reduce taxes; the Board of Governors of the Federal Reserve System can alter reserve requirements and rediscount rates for its member banks. Special policies can be directed toward housing, toward state and local construction projects (through federal grants-in-aid), toward agriculture and toward other industries or sectors of the economy.

To use these instruments with confidence, we should know the net effect of a unit change in each instrument upon each of the goals or target variables. In addition, our use of the policy instruments will have some side-effects on other economic variables; however, we may decide that these side-effects are not sufficiently important for either good or ill to warrant special concern. The non-controllable factors also may produce side-effects.

The most difficult problem of all is to determine with sufficient accuracy the system of cause-and-effect or "structural" relationships connecting all of these variables. This system is called a "model" of the economy. Given an adequate model, the problem of short-run quantitative economic policy is to use policy instruments in such a way that the specified economic goals are achieved in spite of disturbances arising from the non-controllable factors. The dependence of the target variables upon the non-controllable factors and the policy instruments is reflected by the solid black arrows in Figure 1, connecting the policy instruments and the non-controllable factors with the goals.

The goals of economic policy are such that it is not a matter of life and death that they be hit exactly. For example, we might choose as one of our targets a level of unemployment of approximately 3.0 million workers.⁸ However, if unemployment were larger than this, we would still prefer 3.5 million to 4.0 million and 4.0 million to 4.5 million unemployed. We might also prefer 2.5 million to 3.0 million. However, we might prefer 2.5 million to 1.5 million if the lower level of unemployment meant a very rapid rise in the general price level. Thus, we might prefer a 2.5 million level of unemployment and 1 percent per year rise in the price level to a 1.5 million level of unemployment and a 5 percent annual rate of increase in consumer prices.

Two or more economic goals may be competitive in the sense that we can gain more of one only by accepting less of another. In such a case we need some system of weights so we can say that certain combinations are better than others.

^{8/} It is generally estimated that about 2 million persons will be unemployed more or less voluntarily at any given time while looking for better jobs or better places to live.

Tinbergen throws the responsibility for assigning weights to the different economic goals not upon the economic adviser but upon the policy official -- in our example, the President. Any amount of discussion might, of course, take place between the President and others in the process of arriving (at least implicitly) at the relative importances of the different economic goals. Presumably a conservative president would assign different relative weights than would a liberal one. The set of targets might differ somewhat between presidents of the same political party. Also, one president might resolutely refrain from using certain policy instruments while another might assign them an important place.

The issue involved is reflected in the slender arrow running from the policy instrument to the "general welfare." The use of a certain instrument (for example, direct price and wage controls) might involve serious social costs. These costs (enforcement, rationing and annoyance of consumers) might more than outweigh, in the judgment of the policy maker, any efficacy they might have in reconciling a stable price level with high employment and rapid economic growth. Furthermore, certain policy instruments might be regarded as "neutral" if used within certain limits but as entailing significant social costs or disadvantages if carried outside of this range. For example, Federal Reserve Board rediscount rates between 2 percent and 5 percent might be regarded as acceptable while rates of 6 or 7 percent might not. Tinbergen refers to such limits on the range of a particular policy instrument as "boundary conditions."

Perhaps a little more should be said about the objective of the policy maker. We could consider that his object is maximize votes, with each line of action carried to the point where (in the policy maker's judgment) the votes gained by further action would be just offset by votes lost. Alternatively, we might assume that the policy maker adds up in a crude way the welfare of different groups of citizens to come up with what he thinks is "good for the country."

Both Downs and Tinbergen suggest that the policy maker may take into consideration some factors not considered at all by individual citizens and may give other factors different weights than would most private individuals. The policy maker has a more complete flow of information and he has assumed responsibilities for reconciling divergent goals. In a democratic political system it seems likely that the welfare objective of the policy maker will be quite similar to the objectives of the bulk of the citizens. Also, such factors as high real income, low unemployment, relatively stable price level, and the like not only please the citizen as a consumer but increase the likelihood that he will vote again for the party in power. So the "vote-fare" and the "welfare" goals may really not be very different. The "vote-fare" goal will, of course, include one major disturbing element, namely the strategies and pronouncements of the opposition party.

Apart from the disturbances last mentioned, the "vote-fare" goal may have some advantages over other goals. For example, movement toward non-economic goals and exercise of non-economic policy instruments could be appraised just as accurately in terms of votes gained and votes lost as could the use of economic instruments for economic goals. We might even argue that the policy maker need not

and perhaps cannot know the goals of the citizens -- he can only infer their goals from an analysis of the factors that seem to influence their votes. Implicitly, we might argue, the voting itself will assign appropriate weights to successful maintenance of high employment on the one hand and corruption on the part of minor officials on the other.

As a scientist I do not feel entirely happy with this last notion. I think we should also try to estimate by more direct means how representative citizens value the achievement of different goals. When a life insurance salesman goes to a PTA meeting instead of calling on prospects, he is implicitly comparing economic and non-economic goals. If people are continually making such comparisons, then research workers should be able to make some progress at estimating the relative importances of different goals to particular individuals.

Goal conflicts or inconsistencies between stated goals can arise in national economic policy. An important function of the economic adviser working with a conceptual framework like that of Figure 1 is to point out these inconsistencies to the policy maker. In this process the policy maker may somewhat revise the weights he assigns to different goals and change his attitudes toward the use of different policy instruments. Similarly, conflicts between the policies and Congressional directives of two agencies could also be demonstrated in this framework.

For example, a variable regarded as irrelevant by one agency might prove to be a target variable for another agency. Or one agency might influence what it considers an "irrelevant variable"; however, this might be a non-controllable factor from the standpoint of another agency, and the actions of the first agency might complicate the goal achievement activities of the second. These goal conflicts likely will be recognized by the chief of the second agency; however, some such conflicts may persist for 20 years or more without the Congress or the President (a) becoming sufficiently concerned to resolve the conflict or (b) deciding upon a method of conflict resolution that would not create worse conflicts with still other agencies.

Suppose we now apply Figure 1 to the policy problems of the governor of a state. In any given year, legislation and policies of the federal government would be non-controllable factors for the governor of a state. The array of policy instruments available to him under federal and state constitutions would differ from the array available to a president of the United States. Also, in assigning weights to the various policy targets subject to his influence, his responsibilities would run to the people of the state rather than to those of the entire nation. In general, side-effects upon residents of other states would be disregarded. To understand the structural relationships relevant to economic policy formation at the state level one would have to understand how the economy of the state operated. Needed would be facts about natural resources in the state, the initial capital stocks and labor supplies of the state at the beginning of a year or term and so on. The actions of public officials, private firms and individuals in other states would also tend to affect the levels of target variables attainable by (say)

the governor of Iowa. In brief, the governor of a state would have to take a much wider range of phenomena as given however, or uncontrollable (in his sphere of operation.) It is not clear in advance how the range of welfare levels attainable by action at the state level compares with the range of welfare levels attainable by action at the national level. Only the federal government can take direct action to prevent war and to promote an open and democratic world. If these activities are excluded from the comparison, it is clear that much power over the welfare or illfare of its citizens rests upon the government of a state.

Obviously, we can apply Figure 1 to the policy problems confronting a mayor, a city council, or a county board of supervisors. Here again, actions of the state government must be taken as non-controllable; the "model" or factual picture needed now relates to the economy (and social structure) of a town or county, and to actions of governments, consumers or businessmen in other towns and counties within the state which affect the ease or difficulty with which the local officials can achieve their goals. The array of policy instruments available at the local level will generally be more restricted than that available at either the state or national levels.

Perhaps more attention has been given to government policy making than is justified for present purposes. However, Figure 1 can readily be adapted to the policy problems of a business concern. It should also be adaptable to the decision-making problems of nonprofit institutions. The fact that we have not been accustomed to thinking of social, religious or other nonprofit institutions in such terms does not mean that we should reject the conceptual framework of Figure 1. We must try to set out our goals explicitly and to specify the system of cause-and-effect relationships that justifies confidence that we can attain them through the instruments we propose to use. Otherwise we cannot even be sure that our contributions to one voluntary organization are not cancelling out the effects of our contributions to another. Goal conflicts between voluntary or other organizations in a community might also be analyzed in terms of this framework. If the stated goals of the different groups appear to be the same or complementary, then information as to the facts of conflict in their current policies should help leaders and members to modify their actions to achieve the mutually desired objectives.

We still have not defined any particular geographical or political unit as the focus for community development activities. If the success of a particular action by one town does not depend significantly upon any actions that might be taken by neighboring towns, the action unit is a single town. Also, within any given governmental unit, if the goal of school improvement is not much affected by (and has little effect upon) certain other community betterment objectives, the policy model need include only those groups, goals and instruments having direct relevance to the school problem. Further observations on appropriate units of action for community development will be made in a later section.

VI. The Economic Structure of an Agricultural Region

In this section I propose to use materials from several different sources in an attempt to visualize the nature of the economic base of particularly the more rural parts of Iowa.

A. Contrast between the actual economy and an optimal economy. There is nothing mysterious about the economic structure of an agricultural county. For example, a typical Iowa county contains 16 townships, or a total area of 576 square miles. It contains currently about 1,500 farms with annual sales of \$2,500 or more. Some 5,000 or 6,000 people reside on these farms. Another 3,000 or 4,000 people will gain their livelihoods from the local agribusinesses and another 4,000 or 5,000 will be supported by the consumer and public service sectors. Thus, a total population of 12,000 to 15,000 is about par for a 16-township county that contains no veterans' hospital, railroad division point or other major nonfarm source of employment. There are also quite a number of 12-township counties with areas of 432 square miles and with populations of 10,000 or less. Wherever larger size of operation means more economical service, these 12-township counties operate under greater handicaps than those with larger areas.

As in many other states, the county boundaries in Iowa were established more than a century ago, with areas based on the preconceptions of a horse and wagon society. Prior to actual settlement, the land was laid out in townships and sections, and the quarter section (160 acres) was the typical farm size. County seat towns were located near the centers of the counties so that any resident of the county could journey to the county seat, transact his business and return home within the same day.

A dense network of railroads was established, mostly between 1865 and 1885. These railroads confirmed and stabilized the locations of many of the county seat towns, and many new towns sprang up along the railroads. The pattern of land survey and identification led in almost every county to a nearly complete grid of "section roads" spaced one mile apart. With the coming of the "better roads" movement, the development of the primary road system further confirmed the locations of towns of more than 1,000 population. Most of these towns were already located on railroads, as noted above. Since 1885, few farms in Iowa have been more than 6 or 8 miles from a railroad, a grain elevator and a town.

This basic pattern was duplicated in a number of other states. By 1890, the Iowa county was, in effect, laid aside as finished -- the highways and railroads had been laid down for all time, the courthouse locations had been irrevocably fixed, and the towns and villages had been permanently soldered to the points of intersection of railroads and highways.

Well before 1900 the sizes of banks, grocery stores, clothing stores, creameries, schools and churches were determined, again on the basis of travel by wagon over muddy roads. Farm families did a large part of their shopping in villages of less than 1,000 people, and the four corners of the county felt little competition with one another or with the county seat.

This tight little pattern was all right for the 1890's. But much of it is wrong for the 1960's. To see why it is wrong and how it is wrong, consider the following conceptual experiment: Assume that Iowa is still virgin territory, just lately cleared of buffaloes and wild Indians and opened for settlement -- but assume in all the surrounding states precisely the patterns of population and technology that exist in 1961. Suppose now that we were to design political and administrative units, transportation systems, farm sizes, town sites, school buildings, supermarkets, and all other aspects of economic and social life to take advantage of the greater range and mobility of the automobile age, farm mechanization and modern mechanizing facilities. Given this new chance, I believe we would build something a great deal different from the existing pattern. Why shouldn't rural roads be two miles apart in one direction and two miles or even more apart in the other? Why shouldn't farms be laid out with varying widths but a mile in depth, with typical sizes (under Corn Belt conditions) of 240 to 320 acres with some plans for further growth?

The network of railroads and primary highways would certainly be coarser than at present. Towns would be fewer and farther apart. Possibly no towns smaller than 1,000 population would be planned for, to be supplemented by a few crossroads filling stations and other convenience enterprises.

The strong pressures of a competitive economy are constantly tending to propel the actual economy in the direction of the better or even optimal economy that we would build today if we could do it over. In the rural counties, the most basic of these forces is farm enlargement and the continuing trend toward more capital and less labor employed in farming.

B. Factors making for change in the rural economy. The basic economic and social problem of rural America is extremely simple: An economic and political pattern laid out on a scale appropriate for "economic midgets" (small farms and small businesses) must be adapted to the living, shopping, cultural and public service requirements of normal-sized farms, businesses and institutions of the 19th century and is no longer suitable for a nation of economic giants. Whichever way we regard it, the fact remains that an economy geared to wagon traffic at five miles an hour must now be adjusted to the needs of consumers, citizens and businessmen who are accustomed to moving ten times as fast. If time taken for citizens to travel to the county seat were the only criterion, the basic administrative and economic area today could very well include a large number of existing counties.

However, this is not the only criterion. Each kind of business and public service has its own pattern of size economies. Also, economies of size in the internal operations of (for example) a county courthouse should be considered simultaneously with the "social costs" of the citizens who must come to it. I am not convinced that much business has to be transacted in person at the county courthouse rather than by mail and telephone. But the case is clear-cut for the elementary school: The comfort and safety of the children in transit must be considered along with economies of size in operating the school itself.

The emerging rural economy, then, is simply laid out on a larger scale than the old one, with fewer and larger central cities, fewer major consumer shopping centers and fewer business functions remaining to villages of a few hundred people. These villages can continue to exist for a long time as essentially residential neighborhoods and/or "dormitories" for the larger towns five, ten, or fifteen miles away and for retired farm couples. After all, the consumer and public service sectors of a prosperous rural area containing 50,000 people are not essentially different from the corresponding sectors of a town of the same population. The largest town in the rural area may contain its central business district; the towns of 2,000 or 3,000 people may contain the equivalents of suburban shopping centers; and the villages of less than 1,000 people may contain a few convenience enterprises comparable with the corner grocery store or the neighborhood drugstore and soda fountain. And there is no basic reason why the sense of community and civic pride in such a rural area could not become as strong as those of a town of corresponding population.

In Iowa, towns of 5,000 population or less are primarily retail trade and service centers. There are relatively few manufacturing enterprises in towns of this size.

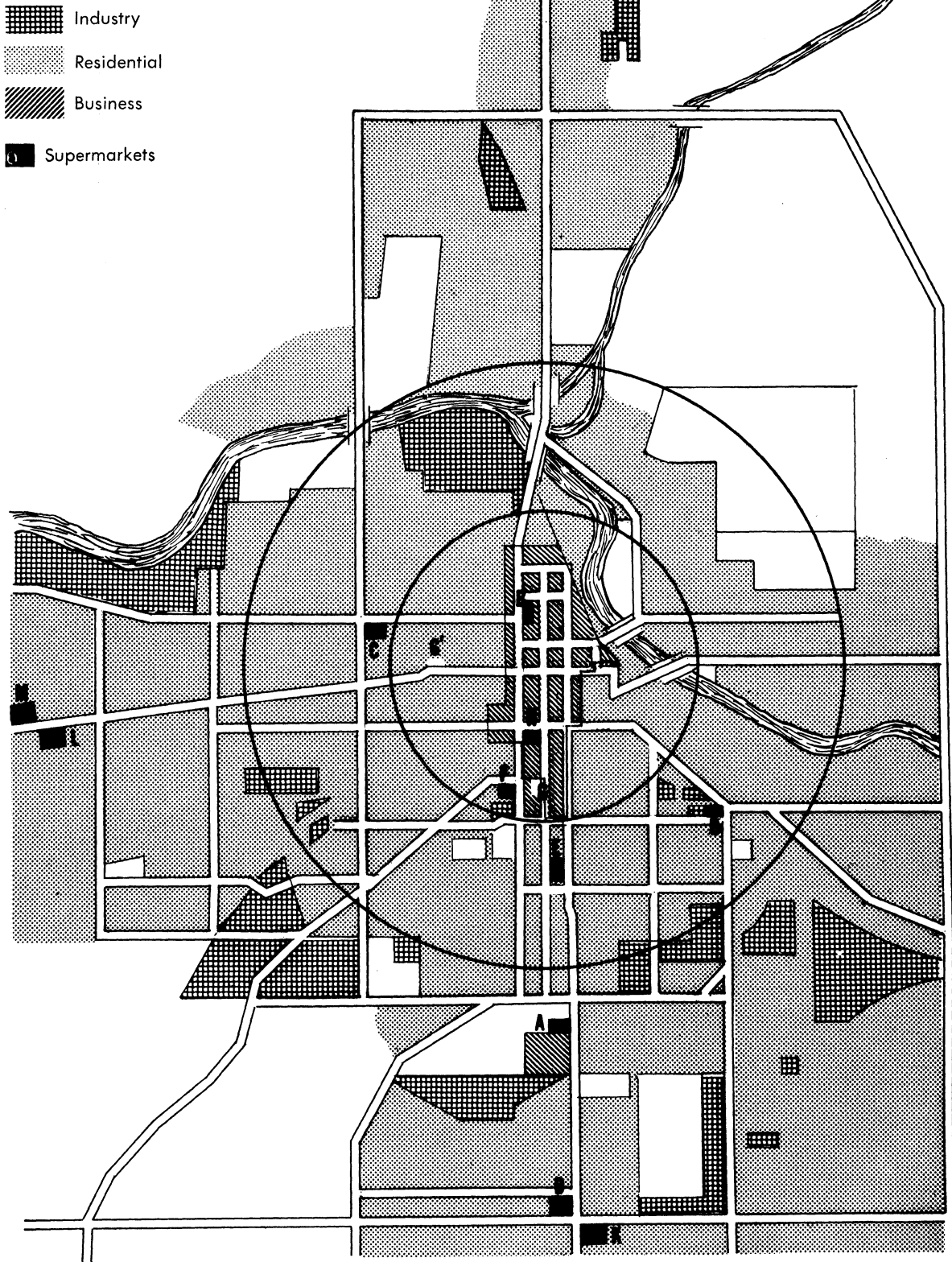
Nowadays the supermarket is the basic unit of the consumer goods retailing sector. In an Indiana city of about 50,000 population studies by Bob R. Holdren, grocery and "other food" stores as of 1954 accounted for 39 percent of all retail sales.⁹ General merchandize stores accounted for 17 percent of all retail sales; apparel and accessories stores, 14 percent; appliance and furniture stores, 10 percent; farm equipment and hardware stores, 3 percent; drug and proprietary stores, 7 percent; and other retail stores, 10 percent. Between 1948 and 1954, the grocery stores gained considerably relative to the general merchandise group, while the percentages of total sales obtained by other classes of stores remained about constant. As we all know, many supermarkets have widened their product lines far beyond the food field. But even without this intrusion into nonfood commodity lines, the modern supermarket is the basic unit in new suburban shopping centers and is tending to become the basic unit in many small towns as well.

Figure 2 is a map of the Indiana city studied by Holdren, somewhat simplified from the version printed in his book.¹⁰ As of 1957, there were ten supermarkets serving a population (including residents of contiguous areas without shopping centers) of more than 60,000 people. While it is true that there were quite a few small neighborhood grocery stores still in operation, the average supermarket in this city was receiving most of the patronage of some 5,000 or 6,000 people. Most of the supermarkets were not large compared with the newest supermarkets in big cities, but they had average gross sales of 1 1/2 to 2 million dollars per year. Although it often happened that two competing supermarkets would establish themselves in the same "location" (that is, in the same shopping center or near the same major intersection), Holdren notes that no two supermarket "locations" in Center City as of 1957 were less than half a mile apart. Each of these

9/ Excluding eating and drinking places, automobile dealers and service stations, fuel and ice dealers, and dealers in lumber and building supplies.

10/Bob R. Holdren, The Structure of a Retail Market and the Market Behavior of Retail Units, Prentice-Hall Inc., 1960, p. 25.

FIGURE 2.
Map of Center City



Source: Bob R. Holdren, *The Structure of a Retail Market and the Market Behavior of Retail Units*,
© 1960 Prentice-Hall, Inc. Adapted by permission.

locations was the logical food shopping center for an area containing several thousand consumers.

Holdren and Mehren both find evidences of economies of size in individual supermarkets which continue to or beyond the \$5 million a year gross sales level.¹¹ This would be enough to accomodate the food purchases of some 5,000 average households, or a population of 15,000 individuals.

An average U.S. household of three persons spends something like \$20 a week for groceries. The supermarket pays about \$16 at wholesale for these groceries, and operates on a gross margin of something like \$4 out of the \$20 weekly food bill. Supermarkets in a place like Center City compete actively to transfer customers of their competitors to their own stores. Most of the supermarkets in Holdren's study had price levels within 2 1/2 percent of one another, or within a range of 50 cents per week on our average \$20 food market basket. (The extreme range, established by only two of the ten stores, was larger than this.)

A reduction of \$1 in the retail price of a week's food would mean a reduction of about 25 percent in the supermarket's gross margin. No accurate measures are at hand concerning the disutilities or social costs to consumers of traveling an extra mile through city traffic to a more distant supermarket. However, I would judge that the disutilities of two shopping trips a week, each requiring travel of a mile more than the trip to the nearest supermarket, might involve disutilities of something like 50 cents to a dollar a week for a consumer located on the usual boundary of the trade area between two supermarkets. Thus, price level reductions of 1 or 2 percent on the part of a particular supermarket could be expected to cut quite deeply into the sales of all stores whose shopping areas were **contiguous** to its own. Holdren reports a case in Center City where Store A lowered its price level by 5 percent and doubled its sales level. Thus, Store A's own-price elasticity of demand was approximately 20. Store D adjusted to this change by reducing prices 3 percent, but still went down in volume from \$40,000 per week to \$30,000 per week, or by 25 percent, suggesting a cross-elasticity of demand of 12.5.

Holdren also lays considerable emphasis on "nonprice offer variation" as a form of competition between supermarkets. Thus, one supermarket might respond to a moderate price reduction on the part of a competitor by installing air-conditioning, music, automatic doors, a conveyor belt to transport groceries from the store into the parking area or other features. The attractiveness of some of these "nonprice" features of the environment in which shopping is done must be worth several cents to the consumer on each major shopping trip -- that is, the nonprice offer variations collectively appear to have about the same order of importance in transferring customers from one store to another as does price variation permitted by the cost structures of supermarkets.

¹¹/ G. L. Mehren, "Marketing Coordination and Buyers' Requirements," in Policy for Commercial Agriculture, Joint Economic Committee Print, November 22, 1957, pp. 282-306.

This same competitive mechanism and these same attributes of supermarkets affect the sort of competition that occurs now between supermarkets in different towns. Small grocery stores in villages of a few hundred people are suffering the same sort of competition from supermarkets in towns of 2,000 persons or larger that neighborhood grocery stores have suffered in the larger cities. Though the road mileages are greater in a rural area, there is still competition between supermarkets in adjacent towns for the patronage of farm and small town residents living between them.

Figures 3, 4, and 5 may be viewed as extending the analogy already drawn between villages and towns of different sizes in a rural area and the business districts, shopping centers and neighborhood stores that we find in cities of 50,000 population or larger. These figures were originally developed by A. K. Philbrick; however, I have drawn them from a secondary source, namely Walter Isard's Methods of Regional Analysis: An Introduction to Regional Science.¹²

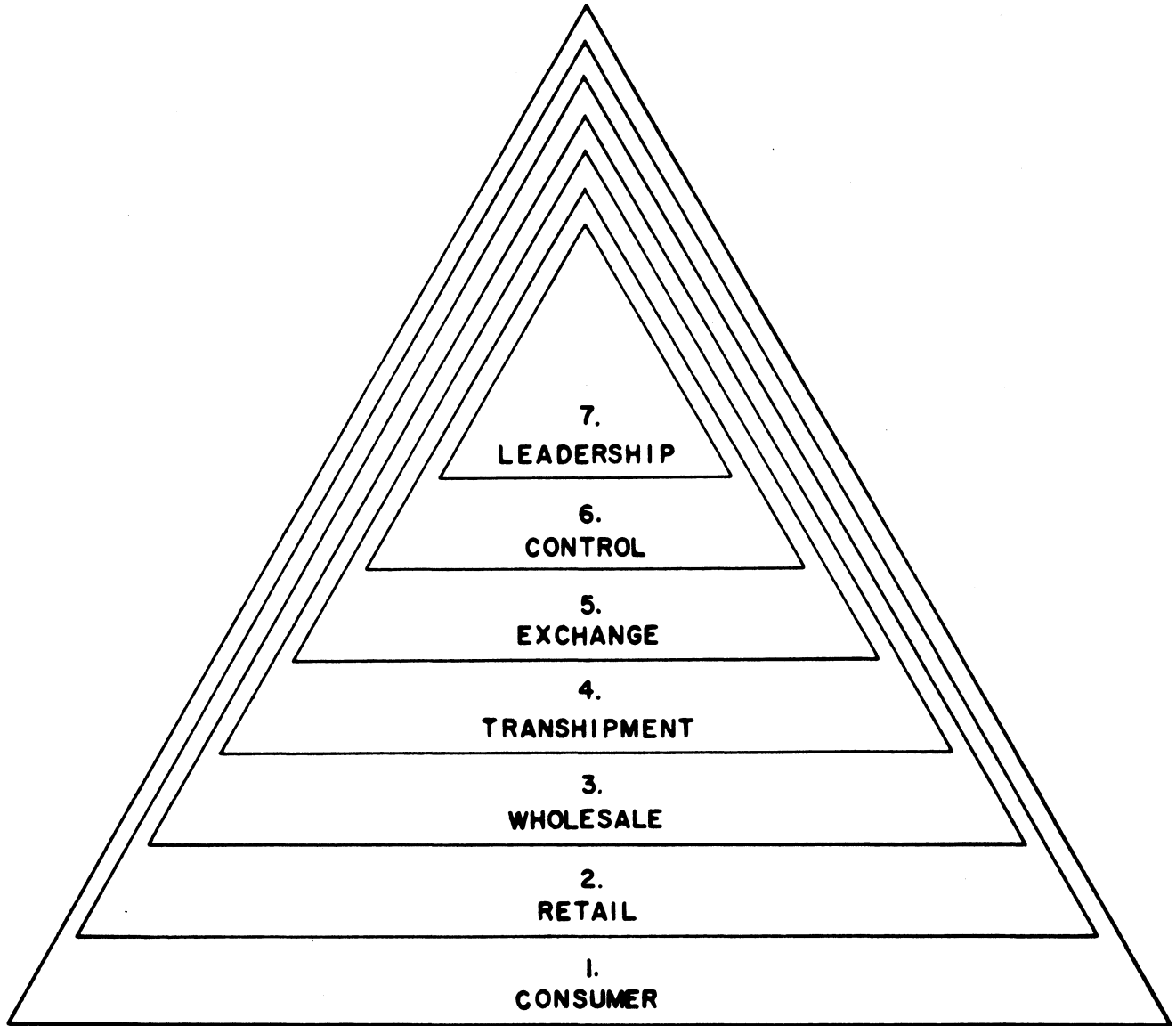
Figure 3 suggests that all inhabited places in the United States can be classified into seven categories. The smallest "populated place" is the individual household, whose economic function consists largely of consuming. The second-order place is a village or small town whose primary function is retailing. Towns of the third order perform additional functions besides retailing; Philbrick has chosen wholesaling as the typical new function. Towns of larger sizes and more complex economic functions are keynoted by trans-shipment, exchange, control, and leadership functions. Only New York City is assigned to the seventh order or leadership category by Philbrick. Chicago and Los Angeles are sixth-order cities, while New York City performs the sixth-order function for the East as well as seventh-order functions for the entire nation. Fifth-order central places include such cities as Minneapolis-St. Paul, Kansas City, St. Louis, New Orleans and Atlanta, among others.

Figure 4 shows another conceptualization of Philbrick's seven-category scheme.

Figure 5 represents an attempt by Philbrick to give empirical content to his hierarchical scheme. The small dots shown in the Wisconsin sector of Figure 5 are second-order central places, whose primary function is retailing. They include the smallest villages as well as towns ranging (I assume) from 1,000 to 2,000 or so population. The second-order places have been omitted from the rest of Figure 5 so that our attention can be focused upon the distribution of third-order and fourth-order central places. Third-order central places include some of the following functions or attributes: Grocery wholesaling, a daily newspaper, serving as a county seat, containing industrial supply or merchant wholesaling firms, having a population of 5,000 or over, and having drug wholesaling and hardware wholesaling establishments. The smaller circles which are completely black and have one or more "spokes" radiating out from them include six or more of the twelve functions used as criteria of third-order status. Small circles

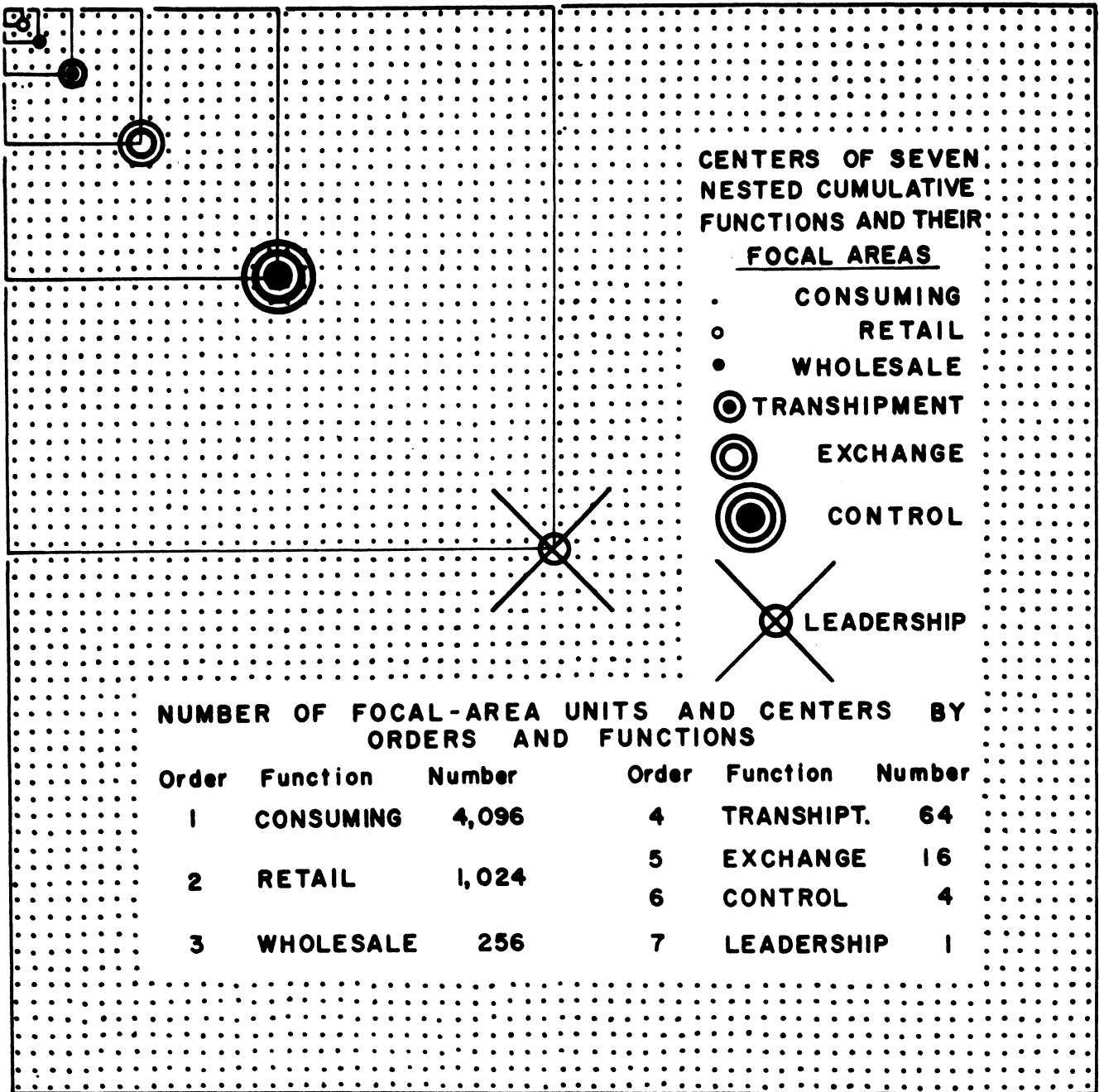
^{12/} Published jointly by the Technology Press of the Massachusetts Institute of Technology and John Wiley and Sons, Inc., 1960.

Figure 3. Philbrick's Seven-Fold Hierarchy of Nested Functions
Corresponding to seven nested orders of areal units of organization



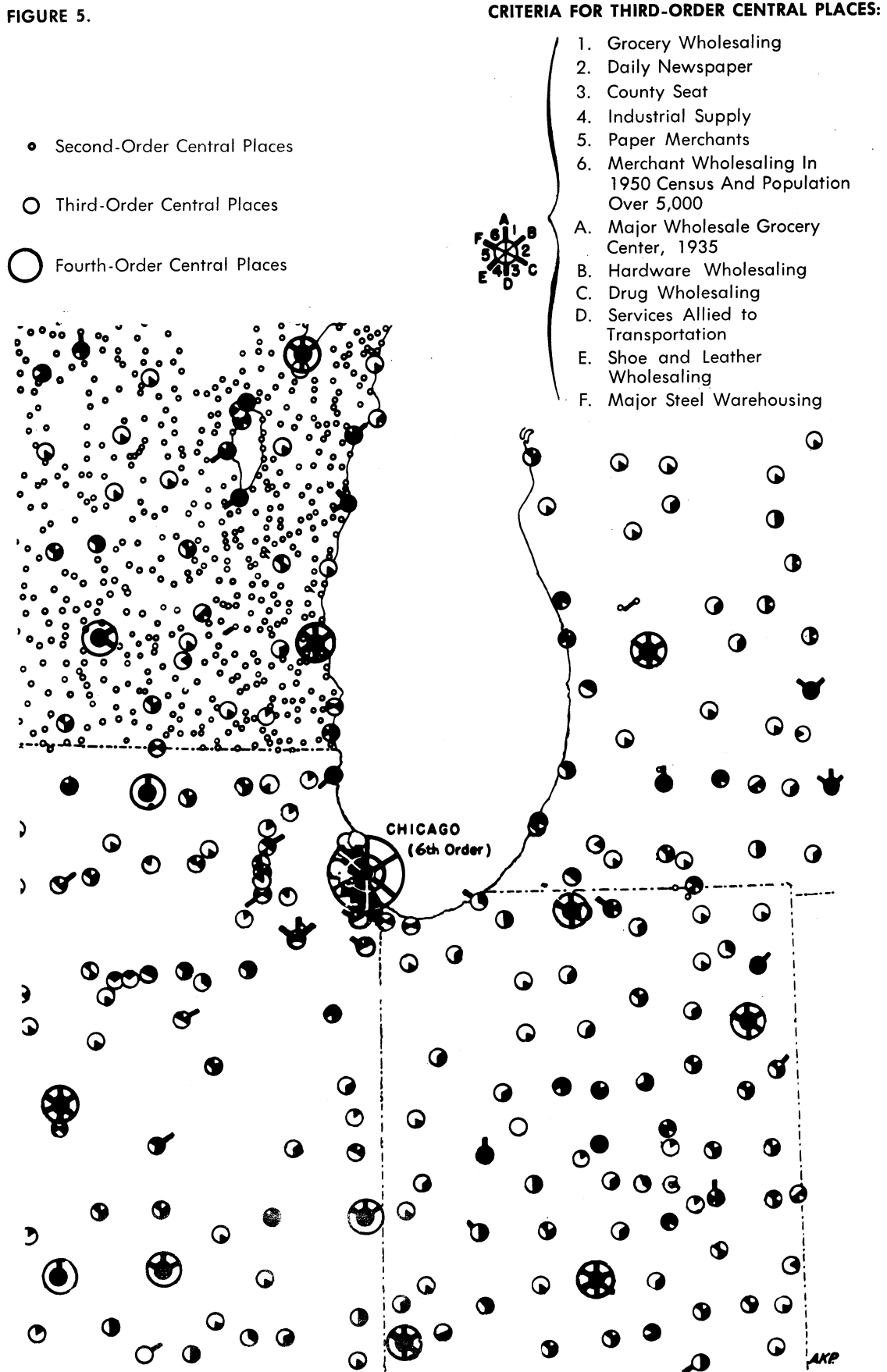
Source: Walter Isard: *Methods of Regional Analysis* (Wiley, 1960)

Figure 4. Philbrick's idealized seven-fold nested areal hierarchy of economic functions



Source: Walter Isard: Methods of Regional Analysis (Wiley, 1960)

FIGURE 5.



Source: Adapted from A. K. Philbrick, in *Economic Geography*, Vol. 33 (October 1957)

with no spokes and only small wedges of black contain only one or two of the twelve functional criteria. The criteria for fourth-order status (the larger circles other than Chicago) are not given in Isard, but evidently there are varying degrees of completeness of functions among the fourth-order cities as well as the third.

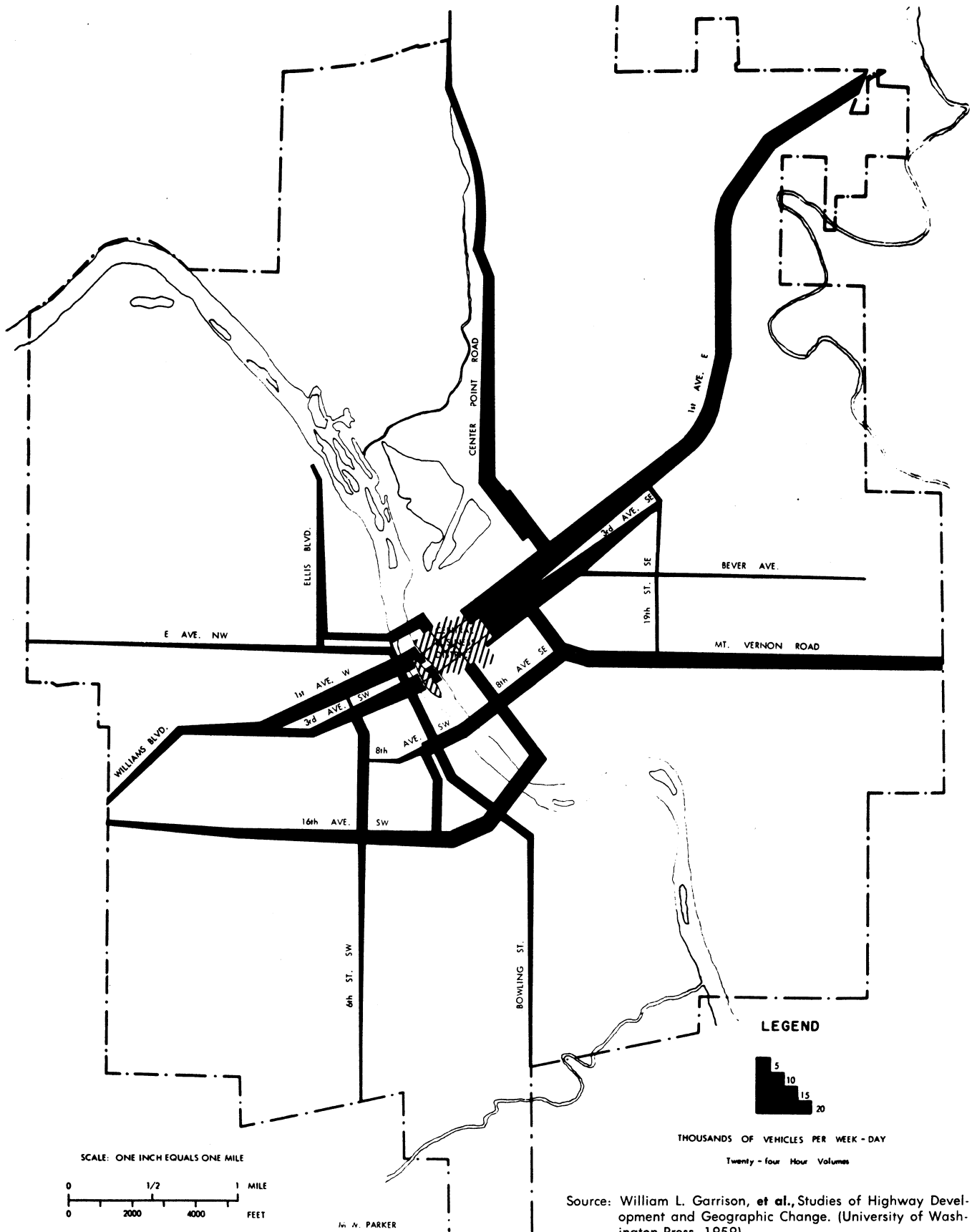
I believe Philbrick's classification has considerable value. However, the criteria for places of different orders change over a period of time and particular functions tend to migrate from one size of place to another. A small grocery store was once a secure and comfortable inhabitant of second-order central places. But a modern supermarket could hardly achieve its basic economies in anything smaller than a third-order central place. In the process of making itself secure in a third-order place, a supermarket tends to squeeze out entirely the small grocery stores previously existing in the second-order places. The wholesaling function in food distribution has also been revolutionalized in recent years. I suspect that very few third-order central places perform this function to a significant extent at present; it has doubtless migrated in most cases to the fourth-order and even fifth-order cities.

This migration of functions from lower order to higher order centers is one aspect of the adjustment of the actual economy toward the "optimal economy." Economies of size for individual firms (supermarkets, daily newspapers, high schools, grocery wholesalers and all the rest) are a major source of pressure for change. Further economies may exist in linking together several supermarkets or other kinds of stores into local or regional chains. In such cases, the economies of size may reside in the wholesaling function, in spreading the use of an unusually skillful manager, in purchasing large quantities of products at favorable prices and handling large quantities at low-unit costs, and so on.

My personal appraisal of the situation is that third-order central places were logical focal points for economic activity and public administration in the horse and wagon days, but that now the logical economic and administrative area would focus around a fourth-order central place and would include several third-order places and a large number of second-order places or villages whose retailing function has almost disappeared. The dividing lines between third-order and fourth-order places are not absolute and will, in any case, change over time. Thus it is quite conceivable that some of the smaller and weaker fourth-order places in Philbrick's map would also be included in an area centered upon a strong "full-line" fourth-order place of 25,000 population or more.

Figure 6 is more closely related to the map of Center City (Figure 2) than it is to Figures 3, 4, and 5. This is a traffic flow map of Cedar Rapids, Iowa, made in 1950. The widths of the black bands are proportional to the numbers of thousands of vehicles passing over particular stretches of street in an average weekday. The great majority of retail stores in Cedar Rapids are located on or very near to these major traffic arteries. In other words, the major suburban shopping centers lie along the more heavily traveled thoroughfares. The

Figure 6. Traffic Flow, 1950 (Cedar Rapids, Iowa)



convergence of the heaviest traffic flows upon the central business district is clearly shown.

It would be interesting to show a similar traffic flow map between towns and villages clustered around a major fourth-order town. The degree of economic and social integration of such an area should be reflected in fairly heavy traffic flows from tributary second- and third-order places to the fourth-order center of the area. But the third-order places would be relatively independent from other fourth-order centers as reflected in very limited traffic flow between them. The relative densities of traffic flows between the lower order centers and the various higher order centers could be made a basis for drawing boundaries between adjacent relatively self-contained economic, social and administrative areas. Long-distance traffic on interstate highways should, of course, be excluded from total traffic flows for this kind of purpose (i.e., that of delineating fourth-order economic areas). In a predominantly agricultural area, farms would take the place of industries in providing the economic base for the consumer goods and public service sectors.

Suppose that studies of traffic flows and the shopping behavior of consumers did lead us to a clearly defined "fourth-order area" which we will call a functional economic area -- FEA for short. Is such an FEA a logical unit for attempts to attract industry? Is it a logical unit for various other kinds of community development endeavors, and perhaps for some kinds of public service and administrative functions?

As to industrial development, careful study of an FEA might suggest that there were considerable advantages in concentrating most new manufacturing firms in the central city. It might prove uneconomical for several towns of 2,000 or 3,000 population in the FEA each to develop water supplies, sewage disposal systems and other utilities adequate to serve sizeable industrial plants. In other words, it might prove more economical to provide such facilities only in the central city. On the other hand, smaller firms with limited requirements for water supplies and disposal facilities might well locate in towns of 2,000 to 5,000 population a few miles away from the central town. It might make little difference to most people in the area whether new industry located in the fourth-order central city or in any one of the third-order places. For a few months at least, people would be willing to drive several miles to and from work in a new plant. After that, they might decide to move closer to the plant, just as people may move from one neighborhood to another in a city in order to be closer to their jobs.

If my assumptions are correct, then it would appear desirable for the various business groups and clubs in the entire FEA to pool their efforts behind some common organization whose object might be to encourage new enterprises to locate anywhere in the area. There would, of course, be competition between one FEA and those adjacent to it, but fragmentation of effort within a given FEA would be largely eliminated.

As a political unit and a unit for levying taxes and allocating public expenditures, an FEA might also have certain advantages. An FEA should have a better balanced age distribution than we find in either the farming areas and villages of Iowa or in the larger cities. Also, an FEA is likely to have at least a stable, and probably a growing total population. In this, it would contrast sharply with certain of our rural counties whose total populations declined by 10 to 20 percent in the last 10 years. In such counties the declining population tends to produce higher unit costs for all public services and for all business firms in the county. It leads to a top-heavy age distribution, which may well be associated with general conservatism and a shortage of vigorous leadership in business and political life.

In fact, an FEA might prove to be a much better training ground for new leaders of state and national stature than are most of the existing counties in the Corn Belt states. An FEA would provide a wider range of policy issues and the individual issues would be more challenging to the extent that they involved larger numbers of people than a typical county.

Just as economic developments are tending to eliminate at least one functional category of places from Philbrick's seven-fold hierarchy, it may be that the hierarchy of political issues is also changing. Certainly, the United States must give far more attention to world affairs in this generation than it did before 1940. Federal aid to states and state aid to local governments will probably increase. There will be a tendency, no doubt, for a further migration of certain kinds of governmental authority from smaller to larger political units.

Without examining the facts I don't think that such migrations can all be regarded as either good or bad. Before 1900, some road maintenance functions in Iowa were handled by townships and even by "section committees"; subsequently these responsibilities migrated to the county level, and since that time part of them have been passed on to the Iowa State Highway Commission. The basic problem is one of finding at any given time the size of area or political unit that is best adapted to carrying out each particular responsibility.

Whatever area we choose for community development purposes, it seems to me that we should lay out at least a crude plan of the type shown in Figure 1. If on further study it proves to be true that industrial development efforts are best organized on an FEA basis, we will face a number of problems. Tinbergen's theory of economic policy was designed to be applied at the national level. In most countries, economic data, economic theory and political organization have all been developed in such a way that they can be focused in an integrated way upon national economic policies and problems.

The boundaries of a functional economic area may not appear on any political map. The criteria for defining boundaries have to be specified before the boundaries themselves can be drawn. These boundaries may seldom coincide with those of political units such as counties or even with the perimeters of groups of counties. Special efforts would be required to organize data even from the decennial censuses

so that they apply accurately to the FEA. Published data on trade with other economic areas may be nonexistent, and data on area income accounts and input-output relations have to be developed from scratch. Data on trends or cycles in area income and employment might also be difficult to develop and maintain. However, if it is clearly shown that such data will be important for policy purposes, these problems should not deter us.

Finally, after the boundaries of an FEA have been drawn and a network of economic data developed, a potentially frustrating question must be faced: Where is the political body that represents the common core of interests of the residents of the area? If an appropriate body exists or can be improvised, what powers does it or can it have to influence the development of the area and the economic and social well-being of its residents?

Many community development activities will be specialized to the needs of the citizens of an FEA, or even the needs of a particular group of citizens in a single town or village within the FEA. We really do not need a comprehensive model or mental picture of relationships to interpret such specialized activities. In other cases, we might need a policy model for the area as a whole which would be directed toward indicating lines of local action that would maximize the welfare of citizens of the area.

However, let us also consider an alternative approach. Let us assume for the moment that we are trying to contribute to national economic development through a set of activities which, in detail, are to be carried out in rural economic areas. The objectives of national policy may then provide us with targets for our local activities and with measures for appraising our contributions to the national economy through the local economy.

Apart from national defense and international peace, the primary goals of national economic policy in a democracy seem to be (1) to increase the level of real income per person, (2) to improve the distribution of income, (3) to increase the stability of income and (4) to maintain or increase the freedom of individuals to make their own decisions concerning their occupations, uses of capital and places of employment and residence. We might go so far as to represent economic welfare symbolically in an equation:

- (1) Economic welfare depends on income level, income distribution, income stability, economic mobility.

or, for short $W=f(l,d,s,m)$

If national policy makers could agree on a set of weights for the four specific goals (or if a president specified these weights as a basis for coordinating the activities of different agencies), then for any combination of values of l , d , s , and m , we could calculate the corresponding value of W .

The maximum value of W_t attainable at a given future time t would be limited by the existing stocks of natural resources, capital and labor. The "best" geographic distribution of labor and capital at time " t " would depend upon the distribution of natural resources, physical plant and final consumers at the present moment and upon the net excess of benefits over costs of redistributing people and business, residential and public facilities between now and time " t ."

If time " t " is 1970, the "best" distribution of most economic activities will be narrowly limited by the present locations of consumers and resources, including land. For example, if we move food stores very far away from consumers, we reduce the attainable value of W ; the move is costly and inefficient. On the other hand, there are some relocations of people and activities that will clearly raise the value of W ; these might be called the "bread and butter" problems of rural economic development. I believe that the directions and approximate amounts of these "bread and butter" adjustments could be estimated fairly well by economists who are expert in regional economics.

Finally, some activities may be distributed semi-independently of either consumers or natural resources. These frequently include new firms whose prospects are highly uncertain and depend more on entrepreneurship than on close calculations of locational cost. Mere redistribution of such activities may have little effect on the attainable level of national economic welfare.

Contributions to rural economic development through redistribution of firms may be looked at in various ways. On the one hand, competition between different areas for a new enterprise of this type will not reduce the national welfare. On the other hand, competition between (say) Iowa and Nebraska for such an enterprise may not increase the national welfare; it may simply redistribute adjustment costs between residents of the two states. However, if citizens of all states are alert to a wide range of possibilities for economic growth and adjustment, we will, of course, tend to have more rapid economic growth nationally than if no organized efforts are made at the area level.

Hence, competition between FEA's for new factories quickens the pace of national growth. I want to lay particular stress here upon what I have called the "bread and butter" aspects of rural area development. If the income level in one area is low relative to that in other areas, the national welfare will almost certainly be increased if some people transfer out of the area and some capital transfers in. Sober analysis will usually indicate (1) that a substantial part of the adjustment must be made by the out-migration of people, (2) that substantial reorganizations of local businesses and public services will be required, (3) that little reliance should be placed on the in-movement of "footloose industries" which would be as well or better off in other places and (4) that in-movement of businesses that are clearly better off in the area can be encouraged as well by factual reports as by multi-colored brochures.

It seems appropriate, then, to define the problem of area economic development in terms of disparities between the existing pattern of economic activity in an area and that pattern which would be consistent with maximum economic welfare for the nation if all adjustments were of types (1), (2) and (4) in the preceding paragraph. These would be adjustments of the actual economy toward the "optimal economy" of the area as part of an economically optimum pattern for the nation as a whole.¹³

VII. Social and Institutional Aspects of Community Development

I am not particularly qualified to comment about the human and institutional aspects of community development beyond the statements I have made in earlier sections. I have emphasized economies of size in economic and political institutions; I would also emphasize them in connection with voluntary nonprofit organizations.

I have suggested earlier that individuals do implicitly weight economic and non-economic objectives together in making their decisions. Non-economic goals take human time and energy and often public or private funds, much as do activities with direct economic objectives. When community leaders set priorities for action, I believe they should state as explicitly as possible the reasons why they give priority of time or energy to particular activities. Also they should estimate the "opportunity costs" of those activities in terms of the benefits they and the community forego by not putting the same energies and resources into the pursuit of specific alternative goals.

¹³/For a fuller discussion of what I have called "bread and butter" adjustments, see the excellent paper by Charles L. Leven in CAEA Report 4, Seminar on Adjustment and its Problems in Southern Iowa, Center for Agricultural and Economic Adjustment, Iowa State University, Winter Quarter, 1959, pp. 215-227. Leven contrasts the two extreme schools as to desirable adjustments -- (1) "move the people out" and (2) "industry for our town." He follows this contrast with "a more general concept of regional development" (pp. 220-221) which I believe is an excellent and well-balanced statement of the different facets of the regional or area development problem.