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ECONOMIC ACCOUNTING AND FAMILY FARMING IN INDIA[1]

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It is widely realized in India, as elsewhere, that planning for economic development and the creation of a socialistic society require the collection of information and statistical data on a large scale. Since 70 percent of the people in India live by agriculture and the country as a whole barely feeds itself, planned development clearly calls for data on the present state of the agricultural economy, both as a benchmark for measuring the needs and the successes of the Plans and as keys to which measures of development are likely to be most fruitful.

Statistics for the nation and the constituent states have been published by the Ministry of Agriculture. The Indian Council of Agricultural Research and the agricultural colleges and the universities have been making surveys of village and farm business for 40 years, although on a limited scale. Under the First and Second Five Year Plans, the Research Programs Committee of the Planning Commission has been organizing a much wider range of research into farm business practices. It is with some of these projects that the present paper concerns itself.

Our problem is what kind of farm management research is most appropriate to the present conditions of Indian agriculture and will be most relevant to planning decisions. Are cost accounting, farm-management, input-output techniques taken from the methods of agricultural economics in the United States and Great Britian relevant to, or do they reveal the practices and problems of, the Indian peasantry?

Current Indian Research

Apart from the continuing government program of crop estimates and market reports and the random sampling surveys of the Indian Statistical Institute, the main effort of current Indian farm business research is concentrated in two programs: a three-year project at six centers[2] to establish the cost of production

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1. This paper is based on a year's experience working with farm accounts in India at the Gokhale Institute, Poona, and the Punjab Board of Economic Inquiry, Ludhiana, for the India Project of the Center for International Studies, Massachusetts Institute of Technology. I am also indebted to Dr. Charles H. Berry of Yale for his critical reading of the drafts of this article.

2. In the Punjab, in Uttar Pradesh, in Madhya Pradesh, in Bombay, in Madras, and in West Bengal.

of various crops, and farm incomes and outlays; and a longer-term project of village surveys and re-surveys at five-year intervals at four Agro-Economic Centers.[3]

Each Agro-Economic Center is independent of the others and free to try such methods as it chooses. The objectives are to discover better means of measuring, and more accurate measures of, rural socio-economic data. The frame of reference is much wider than in the case of the farm costing centers, for the Agro-Economic Centers are interested in all aspects of rural life. The problem dealt with here arises most clearly in the work of the first set of projects dealing with the costs of farm operations and of producing various crops.

The particular farms examined in the farm costing projects were selected in a multiple stage process of random sampling. First districts, then villages, and finally, in stratified samples from the villages, two hundred farms, twenty in each village, were chosen for analysis by each center. Farm accounts for the farms in each village are kept by a field worker who resides in the village throughout the year.

The same six centers conduct parallel, overlapping surveys by the "occasional questionnaire" methods. A field worker goes to the village three times a year and collects the same kind of data as the resident field worker, but gathering the data not from continuously kept records but by asking each cultivator what has happened over the preceding months. Some of the respondents are the same as those for whom continuous records are kept; others are different. The object is to see if the extra costs of keeping a continuous record are justified by the greater accuracy of this method as against the occasional questionnaire. It is of course assumed that the results of continuous record-keeping supply accurate data, and the merits of the questionnaire system will be judged by how closely it approximates the more costly system. If both systems give similar results, the less expensive system can be used in the future.

The contention here is that the efforts of the farm costing centers, and of the Agro-Economic Centers insofar as they approximate to the methods of the farm costing centers, are misdirected, in that they do not attack the variables which are relevant to peasant behavior, nor do they appear to be well-adapted to discovering what such variables are. Farm costing surveys assume that the agricultural activities of the cultivating peasants are governed by considerations of costs, prices, and profit margins, and that the business attitude is the appropriate rational attitude for the peasantry. They implicitly assume that activities which are not rational by business standards are irrational, and that the peasant cultivator would be better off if he changes his practices to conform with the rationale of business. There are, however, a number of circumstances which may often, if not generally, make an unbusinesslike attitude rational, or at least make a businesslike attitude unnecessary when considered in the light of other aims.

The first circumstance has been recognized quite widely: when a large portion of farm output is destined for consumption by the farmer's family, the relative and absolute prices of different crops are not very important considerations

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3. At the Gokhale Institute in Poona, Bombay; at Santiniketan, Bengal; at the University of Delhi; and at the University of Madras.

in deciding what to produce. Being his own supplier, the income effect implicit in higher prices is cancelled by the price effect on real income implicit in these same higher prices. In India, two factors make this circumstance much more important than it is in the West. Both the proportion of self-supplying subsistence farms and the proportion of produce retained on any farm are much higher, and the possibilities of marketing a larger quantity of one crop is apt to be so limited that production for sale combined with purchases for consumption does not seem to the cultivator to be a realistic alternative to domestic self-sufficiency.[4] Some households produce as much as 80 percent of all the goods they consume, and among the moderately well-to-do farm households studied by the Board of Economic Inquiry (Punjab), 60 percent is the typical figure.[5] Figures from a sample collected by the Indian Statistical Institute show an all-India average of 40 percent,[6] which may be low, but which in any case reflects conditions in the highly monetarized sugar, jute, and cotton tracts, and in the market gardening areas around the cities,[7] as well as conditions in the typical country area.

Less frequently appreciated is the state of affairs when "alternative costs" are not measured on the market. All costing implies that there is another use to which the resources or effort can be put. To evaluate costs in money terms requires that there be a market to price these costs. For any individual the value of leisure must always be implicit and to measure it requires a specific set of assumptions about a person's alternatives. In India, the problem of the implicit value of leisure is more difficult to handle because the leisure of permanent servants and employees is a matter of the master's choice. These servants are often bound to the cultivator or landlord by a debt too large to repay or by a traditional status of protector-dependent. How much the servant works or rests is not so much up to the servant as up to the employer. The difficulty with costing the labor arises because the servant is paid by the year--in maintenance, occasional bonuses of cash or clothing, and perhaps a share in the harvest--and customarily does many household and other non-agricultural chores. Consequently there is no direct, and only the most tenuous indirect, relationship between the cost of a servant and the amount of farm labor he contributes.

The problem of valuing labor input is complicated not only by the absence of alternative jobs. Neither the "master" or his "servant" can choose to work during the slack season or when they have "free" time resulting from the smallness of the agricultural holdings. The importance of this absence of alternative employment becomes clear when new forms of employment are opened. An expanded road building and maintenance program or other public works disrupt the traditional relationships, and employing peasants cease using "hired" labor because they must now pay a cash wage competitive with that paid by the Public Works Departments instead of enjoying the services of dependents who take what they are given in kind.

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4. See below.

5. Family Budgets, Board of Economic Inquiry (Punjab), Ludhiana, Punjab; 1945 through 1953 published, 1954 through 1956 still in manuscript.

6. From a private paper by Dr. Wilfred Malenbaum at the Center for International Studies, Massachusetts Institute of Technology.

7. See below.

Other inputs besides labor are not meaningfully priced on the market. One of major importance is the labor of bullocks. Occasionally a cultivator who is not using his bullocks or happens to have an extra pair[8] will rent them to another cultivator, but almost universally the working bullocks are owned by the cultivator who uses them. Bullocks can be costed at their cost of upkeep plus depreciation from the peak value at three years of age, but there are two objections to this imputation. First, much of the cost of upkeep involves imputing prices to the bhusa (straw from grain) and other home-produced feeds (which frequently include oil and oil cakes). Secondly, the Indian peasant does not conceive of managing his farm otherwise than with his own bullocks, so that the element of choice necessary to a concept of alternatives is not really present.[9]

Closely allied to the problem of measuring these costs is that of measuring the costs of capital inputs. Many of the irrigation and minor engineering works have been built and maintained over long periods of time. The construction and maintenance of these works is done to some extent by the family and by the family's servants. However, much of the work has been and is done by village servants and craftsmen and by the cooperative labor of a number of cultivators. To differentiate construction from maintenance would be impossible, but beyond this it is impossible to value the work of village servants and of cooperative effort. The servants are often supported by a traditional share in the harvest and do their work irrespective of the payment they get in any year. The origins of these works date back many years, sometimes even centuries. The same considerations apply to the reclamation of sections of fields. Salinity is common in dry areas, and the reclamation of saline patches consists of repetitive digging with a mattock, irrigation, and growing of fodder, all of which is done by unpriced labor of man and animal (for bullocks power many of the wells), and all of which is certainly a capital input.

A striking example occurs in the hills in the north of the Punjab in the Kangra Valley. The peasants' fields are terraced on the sides of the steep mountains down which the water races during the rains. Running alongside each natural streambed is an artificial channel in which the rate of flow can be controlled. Subsidiaries branch into the terraced fields. The main and subsidiary channels are constructed of large boulders and smaller stones. The flow of water during the rains is so great that the fields are quickly flooded despite the irrigation channels, so there is a gap in the outside wall of each terrace allowing the water to

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8. "Happens to have" is used here advisedly, as the breeding of bullocks does not appear to be a planned affair; and as the young bullocks grow up, a family may have more than they ordinarily do without having planned it that way and without having any definite plans about what they will do with the extras.

9. In one case where the records showed wide variations in the number of bullocks on a farm and in the intensity with which they were employed, the writer pursued the matter with the cultivator and discovered that one year the cultivator was ill and so did not work stony fields; in another a bullock was lame; in another an unusually large number of calves came of age. When asked why he did not even out his bullock costs and use by rental and sale, he replied that no one would rent and that he did not like to sell the animals he knew.

flow off to the next lower terrace, while other channels have been constructed to carry off some of the excess flow. Boulders embedded in the soil form paths between terraces. The lower halves of mountainsides have been terraced and channeled so that a solid slope of paddy is presented to the eye as far as one can see in either direction and going up one, two, and even three thousand feet. Archaeological excavations show similar developments in the early Indus Valley civilization, and in the Kangra valley the works date back well before the advent of colonial rule. They are presumed to have been constructed by the cooperative labor of the cultivating peasantry, and today are maintained by village servants whose sole and permanent job is keeping the channels clear and making minor repairs. When major repairs or new works are called for, the cultivators in the neighborhood combine to undertake the job. The monetary cost is a minute proportion of the total effort which went into building the system. One could put a value on the system by asking an engineering firm to estimate the cost of reproducing the job, but this hardly seems a relevant measure when it is inconceivable that any group of peasants would consider hiring an engineering firm to construct such a system, or even think of constructing such a system themselves except over a very long period of time. Without a market for the cooperative labor or the labor of the permanent servants, without a realistic alternative way of constructing wuch works, and without any alternative employment of time except leisure, one cannot cost the irrigation works.[10]

Were it merely a question of evaluating the historical costs of these works, the problem would only arise in attempting to value depreciation in the current farm accounts. However, the same system is employed today in repairing and improving the existing works and in constructing new ones. It follows that measures of current investment expenditures are as liable to erroneous interpretation as are measures of the original cost.

In drawing up farm accounts, it has often proved possible to attribute values to inputs and outputs when the farmer has not bought or sold anything by using the prices of other transactions in the same village, but this is not easily justified. Let us suppose that a very small portion of the bhusa (straw) from a harvest is sold in the village. There is a price for the main feeding-stuff of the village, but can we price all the bhusa produced (and consumed by the livestock) at this price? Against the obvious argument that this is the price at which the produce was actually sold we must weigh the argument that in imputing values in America and Britain, for instance, we use the price at which most of a product was sold to impute the value of the little which was not sold. Even in the case of labor on American farms, where the implicit inputs exceed the purchased inputs, the flow between the markets for farm labor and for other labor, and the flow from city to farm and back, is so easy and frequent that there is no unreality in attributing the actual wages of one group to another. In India we have the opposite situation. The little that is sold is used to impute the value for the much larger amount which is not sold. As a matter of logic, a highly alert market can produce an equilibrium price with a single transaction, if that price is one at which all other potential sellers decide to withhold their supplies and all other potential buyers decide not to buy. It does not seem reasonable, however, to assume that this is the usual

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10. Given the social system in which these works were built, it can be argued, in continuation of what is said in the text, that the true alternative cost of these works is zero.

case in India. The markets are neither perfect nor highly integrated. One man asks his neighbor for some bhusa when he needs it, and a bargain is struck. The other farmers in the community are not standing by to step in on one side of the market or the other. The price is probably not stable or representative because so little is sold. We have no idea what prices would prevail if one group sold all its bhusa and another bought all that came on the market, or if a sizeable number of cultivators in one village decided to sell more. No attempt is made here to answer the question one way or the other, but until it can be shown that the price at which a few farmers sell their bhusa in excess of current needs is the logical value to put on all bhusa in a village, there will be an air of unreality about imputed output values and imputed costs of maintaining livestock. More important, unless the cultivators themselves regard this price as the relevant value for their home-produced and home-consumed bhusa, a farm account using this price will not reflect the conditions which govern the cultivators' decisions.[11] What is said here about costing bhusa applies, if often to a lesser degree, to the pricing and costing of many other inputs and outputs. Perhaps three-fifths, and in some areas as much as four-fifths, of the agricultural produce in India never enters the market.

Beyond the difficulties of imputed accounting there looms the large problem of what we mean by rational behavior on the part of the peasantry. Rationality for a farm business in a thoroughly market-oriented economy may differ from rationality in the situation in which the Indian peasants find themselves. Where rational behavior for the Indian peasant differs from rational behavior for a farm manager, it is difficult to see how the results of farm management analysis can help either the peasants or the planners.

The rule of efficiency in a market is that the marginal cost of producing a little more of one crop is equal to the marginal revenue derived from that small increment; or, in other words, that the profit of the farm operations be at a maximum. This rule is a logical deduction from the proposition that the farmer tries to get the greatest possible income, and from the corollary that his behavior is efficient when there is no way he could employ the resources at his disposal to produce greater value.

From this general rule of a market economy is derived the conclusion that the less efficient farmers will be driven out of business because their profits are lower or negative. However, this result depends not upon the rule of efficiency but upon the rule of survival, that cash income from all sources must exceed cash outlays for all purposes. The rule of survival approximates the rule of efficiency when most "costs" are outlays in cash, and it is with an eye to this particular circumstance that the traditional methods of farm business analysis have been

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11. Since bhusa is an inevitable by-product of grain, the staple food of all India, and since bullocks are owned by the cultivator or his landlord, the cycle bhusa-bullock-work-grain-bhusa seems to be such an integral part of the system that one cannot conceive of an alternative in India. Why then attribute any cost to the bhusa? Yet in India farm accounts bhusa is an important element. The alternative procedure of pricing bhusa at the cost of alternative feeding stuffs (hay or meadow or maize or clover) would result in showing every farm account bankrupt, to which condition it would be extremely difficult to attach a meaning.

developed. Where costs (inputs) have a corresponding cash outlay, as in commerce or in a fully monetarized industrial economy or in one of the highly specialized agricultural economies like those of New Zealand or Denmark, no problem of what is meant by rational behavior arises, and for most purposes the rules of efficiency and of survival coincide.

When the gap between the rule of efficiency and the rule of survival is great, peasants' decisions and moves to survive and to fit their natural and social environment can be very different from moves to maximize net money income or income measured in material goods. The peasants' actions may be rational and intelligent even if "uneconomic", and proof that the peasant is doing something "uneconomic" does not show that he is either ignorant or foolish. Many considerations other than economic efficiency impinge upon the management of Indian farms, from a desire to keep relatives together through activities which create prestige but not income, to the observance of the rules of accepted behavior and of religion. If the economic system provides the leeway--between the money income needed to survive and maximum profitability--it is not irrational to give higher priority to non-economic activities and ends. There is a parallel of sorts here with the businessman who can "administer" his prices or with those modes of social behavior which so delighted Veblen. The argument is not that the Indian is peculiar in this respect, but this his opportunities are greater, the non-economic pressures stronger, and the market pressures weaker. The Indian adaptation to circumstances is therefore different, but it is not therefore less intelligent.

It is argued here that the Indian peasant is rational, yet it is often pointed out that he could increase his crop yields by altering his farming practices. The use of dung for cooking instead of for fertilizing fields is often cited. The case illustrates the difficulties in the way of analysis. First, there is a shortage of fuel in many areas. Since wood and charcoal are not available and merchants do not bring it in, the peasants could not make their chappatis from the higher wheat yield if the higher yield required dung. Second, dung is widely used as manure when there is enough water available to prevent burning of the plants, but it is not so used in dry areas where it would do more harm than good. Third, the home manufacture of ghee (clarified or boiled butter) and lesi (whey) requires a warm, slow fire, and dung is much more effective here than charcoal or wood. It is not so clear that the peasant should want to put his dung on the field.[12]

The size of the gap in India between efficiency and what one must earn to survive is hard to discover, since we should measure the marginal cost of output (which at maximum efficiency equals the price of the output) against the marginal cash-outlay cost. The information needed to compute these marginal costs does not exist, but some indication of the magnitude may be had from average cost figures. At the Punjab Board of Economic Inquiry the figures gathered in the farm cost project showed average cash outlays per maund (82 lbs.) of wheat produced of Rs. 3, Rs. 4, and Rs. 5, while the total average costs, including implicit costs, ran up to Rs. 15. Market prices ranged from Rs. 12. These figures indicate that a peasant need earn only a third of what he might earn, and nevertheless retain

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12. Although it may still be correct that the peasant and the rest of Indian society would be better off if the economy were so reorganized as to make another slow-burning fuels available in exchange for a higher yield of wheat based on dung and new methods of water utilization.

his farm. Where the gap is this large, or even half as large, there is much room for maneuver--for the peasant to consider many other aims and values and fears besides the immediate commercial ones of farm business.

In terms of equilibrium theory, rural India presents a wide range rather than a point. Any price between the maximum efficiency point and the minimum survival point is possible. Not only is the solution indeterminate, but it is possible to have several different prices at the same time with no mechanism operating to assure gradual coalescence of the prices.

In the discussion here and on the following pages, it is not intended to imply that there are no market-oriented reactions among the Indian peasantry, or that they pay no attention to prices. They do when the prices are meaningful or when the opportunities are clear. There are areas where adjustment to the money economy is great. The larger part of the incomes of jute growers in Bengal is in cash from the mills and the exporters. The same is true of the cotton growers of Gujarat. Near the larger cities there has been a complete adjustment to the urban market. Around the city of Ludhiana in the Punjab, a city of over 150,000 people, one observes belts of vegetable gardening, dairying, and fodder growing for the milch buffaloes in the city. On a tour south of Poona in Bombay State, the writer discovered that the potato and onion "shed" for Bombay city extended over 150 miles from Bombay. Poona, with over half a million people, is surrounded by villages specializing in milk, or in carrots and potatoes. These are all commercial farmers and will shift from one crop to another and depend upon outside sources for their consumption goods. One finds farmers in an area extending up to fifty miles who grow wheat to sell in Poona market where they buy the cheaper jowar grain and pocket the difference in cash. As sugar mills have spread over the country, there has been a marked shift toward commercial farming when new mills start operations. As industrial towns grow, particularly in the north where there are a large number of refugees from Pakistan, the result is the same.

Where there is a jute or sugar mill, the peasant economy has become more monetarized, but more market-oriented in only a limited sense. The farmer can grow and sell one commercial crop, but in the absence of competing commercial crops one cannot say that he adjusts to market prices. The success of sugar mills in getting and keeping a full supply of cane, in fact, of having to develop a system of rationing allotments among their suppliers, indicates that within any range of relative prices seen over the past three decades the advantages of turning a sugar cane crop into cash on an assured basis far outweighs any other consideration.[13] The only relative prices which have an influence here are the prices paid for cane by the mills and the price of gur--a home-made, unrefined sugar. If the price of gur rises relative to the mill price of cane, cultivators will withhold cane from the mill and boil their own gur.

We may expect the area and effectiveness of market considerations to increase as year-round bridges and roads are built connecting the cultivator with the cities and the processing mills. A map of the large area influenced by the Bombay market would show fingers pointing out along the good roads, with areas of little influence close to Bombay where transportation facilities were poor. After a century and a half of British rule, it is not surprising to find a widening area of

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13. See below.

monetarized and market-oriented farming, but in much of India today the opportunities for commercial farming are small and market pressures are weak.

There are many considerations which will discourage the management of holdings on the basis of relative prices and costs and on the assumption that maximization of welfare as seen by the peasant can be equated with a maximization of accounting income. One is the desire to conform, and sometimes the necessity of conforming, to a customary pattern. It is difficult to see how any peasant in Kangra could alter his cropping pattern or farming methods independently of all the others who share the mountainside. Outside of the commercial farming districts and areas close to the cities, it still appears that what the village elders consider to be the right and proper thing to do carried great weight.[14] Custom--the wisdom of the ages--has an important position in all other Indian activities and must often exert heavy pressures in agriculture in directions other than those indicated by costs and prices. This writer has not seen a study of the effect of religion and the priesthood (probably through astrology) upon farming decisions, but here again it seems likely, in view of the effect of these upon other important activities and decisions, that they would play a prominent part in counteracting or eliminating market-oriented decisions. It is true that these non-economic pressures may easily lead to economically inefficient use of resources and that the material means of satisfying wants would increase were these pressures less powerful, but it does not follow that the peasantry thinks that giving a higher priority to economic considerations will make for a better life. To say that the peasant farmer is making a mistake economically does not answer the questions of how and why he manages his farm as he does.

Another element affecting the making of decisions is the desire to stay away from the money-lender. Since the money-lender often has the reputation of being a usurer and a generally dangerous man, a cultivator may feel it is wise not to borrow even in those cases where he sees an opportunity for the profitable employment of borrowed funds. Sometimes the tenant holding land as a share-cropper may think it wiser not to attract the attention of the landlord; sometimes certain crops or procedures will make it easier for the share-cropping tenant to secret some part of the produce and thus turn over less to the landlord.

There is an obverse to this coin. If the money-lender has trading interests, and this is very often the case, he will find it to his advantage to require the cultivator to grow what will fit into his other business interests rather than what will bring the largest return to both. Since a money-lender who can make sure that all the debtor's transactions take place with and through himself can falsify the books and alter prices and charges in his own favor, he has an added motive to insist upon what may be less than optimum cropping patterns. Finally, the money-lender may consider it to be in his long-run interest to keep the cultivator indebted, since this will guarantee a permanent income to the money-lender or an easy route

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14. For illustrations of this problem in Community Project areas, see Adrian C. Mayer, "Development Projects in an Indian Village", Pacific Affairs, Vol. XXIX, No. 3, March 1956; and for similar problems in the field of medicine see McKim Marriott, "Western Medicine in a Village of Northern India", Health, Culture and Community: Case Studies of Reactions to Health Programs, Benjamin D. Paul and Walter B. Miller, eds., New York, 1955, pp. 239-268.

to landlord status. The same may apply to the landlord, whether he wants to assure himself of his share of the crop or to ensure that the tenant has the cash to pay the rent. Perishable crops--vegetables, milk, and ghee--may provide a high return to the cultivator, but since he markets them from day to day he is in a position to avoid extra exactions by the money-lender or landlord, who may therefore prefer secure control to prompt payment. The terms of loans and leases can be so drawn as to give the creditor the necessary power.

Another circumstance discouraging market-oriented reactions was found by Mrs. Scarlett Trent in two Mysore villages.[15] Extension workers find it impossible to get the cultivators to adopt labor-saving devices and methods. Much of the field labor is done by members of families traditionally attached to the cultivating families. If these laboring families did the field work they were paid, but if there was no work to be done, the cultivating families felt obliged to support the laboring families anyway. In consequence there were no costs to be saved by saving labor. It would be as correct to put the costs of maintaining these laboring families under the heads of "conspicuous consumption" or "consumption expenditure for the purpose of maintaining social status" as under the head of "labor input".

That this situation must be common throughout India is indicated by the prevalence of permanent servants, dependents, and poor relatives.

The peasant needs to eat. Before a man will become dependent upon a source of supply for his most vital needs he must be assured that this supply will come through to him when he needs it. Occasional markets will not serve his purpose: they must be regular and frequent, and large enough to absorb the produce which the cultivator brings to market. Around the cities of India belts of market gardening and dairying have developed along commercial lines, and this is because the cultivator knows that any day on which he brings in a couple of bags of carrots or onions, or a wagon load of potatoes, he will be able to sell them. However, in the country districts he cannot be sure that very small local markets or the village shopkeeper will want his produce, and since he is close to the level of starvation, he cannot afford to take the risk of being unable to buy staple foodstuffs if his marketable foodstuffs or raw materials do not find a market.

It is of course not merely a matter of the physical presence or absence of large markets, but also of being able to get to them. Mountain ridges or rivers in flood can cut off a village from a source of commercial supply, and so long as there are difficulties or dangers, the rational peasant will not risk his staple supply for the next year even if commercial considerations point to a different pattern of farming.

Natural conditions reinforce this conservatism. In many areas plowing and hence planting depend on the timing of the monsoon, while the crop chosen depends on the time of planting. In the Deccan wheat is planted when the monsoon comes early, jowar or bajri (millets) when the monsoon is late. The relative prices of seed wheat and seed jowar and the anticipated harvest prices of these two can have little effect upon the choice made. Where the soil is shallow and the

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15. Mrs. Trent, of the University of Manchester, England, told me about this case. She is now writing up the results of her two-year survey of the economy of these villages.

climate dry, the only staple food crop whose growth is assured is bajri. A bare level of survival-subsistence can combine with natural conditions to produce a farming pattern without alternatives and hence without alternative costs, with the result that farm business accounts can do nothing to explain or to alter the agriculture of these cultivators.

Perhaps the most important element in the peasant's scheme of values is the maintenance of the unity of his family and the interdependence of the kinship over as wide an area as possible. Thus, when the peasant is faced with the choice of a profitable action and another action which will tend to keep more of his family on the farm, to supply security (and a dependent status) to his relatives, and to increase the dignity and prestige of his position in the family, he will forego the profitable move. An instance would be the intensive cultivation of rice when jowar (a millet) would be more profitable but would employ less labor and feed fewer people per acre. Again, it is to be emphasized that it is the ability to survive as a farmer while not maximizing income or minimizing costs that permits the cultivator to give so much importance to these other matters.

There is, of course, a descriptive value in farm accounts. Insofar as they are kept in quantities in kind, we get a picture of what the farmer uses and what he produces. If these accounts are complete, at least as regards particular crops, they can be used by an agronomist in an analysis of what methods the farmer could better employ. At the descriptive level and at the technological level farm accounts are useful, but it is at the level of economic analysis--in accounting for the peasant's behavior and in formulating policies which will induce him to change his pattern of behavior--that farm accounts based on western concepts of economic accounting can be misleading. A study of farm management in India requires far more emphasis upon the discovery of the variables within the village structure which govern peasant farm management decision and much less upon efforts to force peasant farming operations into the pattern of western analytical classifications. Farm costing can become fully relevant only as a subordinate aspect of a study of the techniques and motivations of present peasant management.

The criticism of the employment of India's agricultural economists in the pursuit of farm business analysis rests on the danger that conclusions derived from such research may be in error in regard either to evaluations of welfare or to the formulation of policy.

For instance, figures of net income may be misleading when peasants do not actually incur some costs or in effect enjoy a higher price for their product than that imputed from the market. If most costs are implicit, no matter how high they are they do not reduce the available product. As a result, costing of land owned by the cultivator, of the labor of his family and his permanent servants, of seeds supplied from his last harvest, of manure from his livestock, of the bhusa fed to his livestock, of cotton sticks used for fuel, all tend to misrepresent the farmer's income and welfare position. When a farmer stores his own grain and his wife pounds or grinds it, the farmer and his family in effect produce and consume flour which should therefore be priced at current retail prices. The common accounting practice of pricing grain output at the harvest price of grain thus understates the farm's income by as much as fifty percent.

The real test of income welfare is not the harvest value (with all the difficulties of imputing this value) less costs (which involve even greater difficulties

of imputation), but rather the food and other produce available to the family plus any net additions to the productivity of the farm resulting from the employment of "free" time to spade, to plow, or to irrigate.

To illustrate, of three sets of farm records intensively studied by the author, it was found that in each case an appreciably larger income (10 to 25 percent) could be attributed to each farmer by altering the assumptions on which costs and values were imputed. That there was merit in making such alterations became apparent when it developed that although the farm records showed these farmers operating on the margin of deficit, some years at a loss, some at a small profit, nevertheless in two cases the farmers were lending money from their earnings and in one case had been increasing the farm size by buying from neighbors. Certainly this could only be possible when the farms were in the most relevant sense operating with an "investible surplus". If the records do not show this surplus, it is reasonable to assume that there is something wrong with the records. What appears to be more important than the possibility of poor record-keeping is the possibility that the kind of records which the cultivator is asked to keep do not truly reflect his mode of operations and so lead inevitably to a misstatement of his position.

Among the policy decisions which may be made on the basis of farm business analysis are those:

1. to give farmers a minimum guaranteed price on their output.

2. to use price (and subsidy) policy to stimulate production.

3. to stabilize prices.

4. to decide on the capacity of farmers to borrow and on their ability to save and invest.

5. to evaluate changes in national income, savings, growth of agricultural income, and to make changes in the development plans on the basis of such evaluations.[16]

In every one of these cases a reading of the record on the basis of western farm management research methods can lead to unnecessarily costly or to unanticipated results.

The minimum price needed to maintain production and the flow of goods into the urban markets may be far below the price indicated by the costing analysis. This will be true whenever the effective price to the farmer exceeds the price needed to assure survival. So long as the farmer's cash receipts on the output he sells exceeds his total cash outlays, he may be willing to bring some of his output to market. In fact, a lower price may force a larger amount on the market in order to pay land taxes, local taxes, and water rates. Only when the price falls below this level will the farmer be in trouble. While we do not know what his minimum price is, we do know that it is not--except by pure chance--either the average cash outlay cost of a crop or the average cash outlay plus

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16. All these decisions are at present being actively debated in India.

implicit cost of the crop. It must be higher than the former, or the farmer would have to sell his entire output to pay his cash costs,[17] and is probably lower than the latter. At any rate, despite price declines during the First Five Year Plan (1951-56), the urban food shortage disappeared, and agricultural production was reported to be increasing.

Another piece of evidence indicating that prices and accounts will not explain peasant activities is the history of sugar prices and output. Since the 1920's the amount of cane coming to the sugar mills has increased steadily despite a decline in the price of cane relative to other crops. The answer seems to be that an assured market (the new sugar mills) will bring forth a supply at lower prices. It is not the level of the price; it is the assurance that a price can be realized fifteen to twenty months after the crop is planned. Price fulfills the function of rationing an existing supply coming on the market and adjusts purchased consumption to abnormal supplies in very good or bad years, but price does not have an adjusting effect upon future supplies.

The writer attempted a number of correlations between acreage planted to the major crops and prices. It seemed reasonable to assume that expected prices bear a positive relationship to current and recent prices, so correlations were made between acreages and price relatives without lags, with one, with two, and with three-year lags to allow for the varying length of crop periods, and between acreages and the price relatives averaged over the preceding three years, for the Punjab in the years 1939-53. The only significant correlations were for barley and maize, which are regarded as the least commercial of crops. Graphs of indices of prices and acreages for Uttar Pradesh during the period 1919-1939 showed criss-crossing lines indicating no correlation.[18]

We may therefore conclude that a program of price supports is unnecessary to keep the farmers producing and to keep them from bankruptcy, high imputed costs notwithstanding.

The supply (schedule) of agricultural produce seems to depend very much on what the peasant finds himself with after deducting the needs of his family from his harvest. If this excess or surplus is large, it will go to the market, whatever the price, and if it is small it will not increase even with higher prices, because he will first take care of his own family's immediate consumption requirements. When interviewing cultivators, the writer asked why the particular crops grown were chosen, and the usual answer was that his family needed them. Answers to questions about what was sold and why generally involved remarks to the effect that the crop yield was more than the family needed. If the size of the farm permitted it, the cultivator would devote a larger acreage to each crop than he anticipated was necessary. If luck was poor, this provided a cushion. If luck was good, it provided extra cash. The cultivators did not say that they planted a particular crop because the price was relatively high or because they expected it to be high next year. Furthermore, there was apparently little effort to vary stocks in order

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17. After paying these costs, he presumably starves to death.

18. In a note Dr. Raeburn of L.S.E. informs me that students of his have found significant correlations for grains, cotton, and oilseeds. From my own computations, I still regard the question as at least undecided.

to even out year-to-year fluctuations in yield. The considerations were first, to supply the family's needs this year, and second, to take what cash could be acquired for the surplus. This being the case, a price policy designed to increase the production of a certain crop or, more especially, to increase the flow of that crop into the market, may fail. The rational reaction of the peasant may not be the expected rational market reaction. No price will induce a larger supply if the peasant is not sure that he can use the proceeds of a sale when his village is cut off from the market town during a monsoon. A change in relative prices would have to be very great to induce a well-to-do peasant to let his "retainers" go. The rational reaction of the peasant is likely to be the maintenance of his self-sufficiency. In the usual terminology of economic analysis, the price of agricultural produce in India has a rationing effect, and a distribution effect on cash incomes, but there is a good deal of evidence pointing to the conclusion that it has much less effect on what is produced.

Stability of prices of the staple food crops would be a great virtue for those who live in towns, but from the farmer's point of view, it is not nearly so important. The higher the price, the larger the peasant's cash income, but this is a virtue of high, not of stable, prices. His need is for an assurance that his cash income will cover his cash outlays, but these are only a small portion of his real income and expenses. The idea that the peasant needs price stability comes most likely from the farm accounts which show fluctuating harvest prices and steadily mounting implicit costs over the past decade. Remove these implicit costs from the accounts, and it becomes more difficult to see why the cultivator needs a stable price.

A most interesting case of the possible misinterpretation of the significance of the management of a farm arising from an analysis of farm cost records can occur when rating the riskiness of loans to farmers. The true risk involved in a loan depends on the farmer's willingness and ability to repay the loan, but a poor accounts position can be associated with a high ability to repay while a good accounts position can be associated with a low ability to repay. A poor accounts position will occur when the income of the farm including imputed values is less than the cost of farm operations including imputed costs, yet, at the same time, the cash income of his farm can exceed the cash expenses of the farm by a large margin, and in this case the farmer is an excellent loan risk. In the other case, if the cash income of a farmer is roughly equal to his cash costs, even though his imputed income is much larger than his imputed costs, a real problem arises as to how this farmer is going to repay his loan. If the proceeds of the loan are used to increase the farmer's cash income, the problem is solved, but if the proceeds are used in a highly productive way--which does not increase cash receipts--the farmer is clearly a much worse risk than his less efficient competitor. This can occur, for instance, when the farmer invests time and energy in improving his holding and its future productivity, but lives in an area where transfers of land to money-lenders is prohibited (e.g., all land held by sirdars--tenants of the State--in Uttar Pradesh), so that the creditor cannot tap the increase in land value.

On the level of national income accounts, the normal farm business analysis can be equally misleading. The figure reflecting the true or welfare income of the peasant need not, and most often will not, equal the income computed from farm records; the savings potential of the peasantry may exceed or fall short of the surplus shown on farm and domestic accounts, as when the capacity for non-monetary investment in the form of the investment of one's own or one's servant's

time is large, or conversely, when cash outlays rise relative to cash receipts. It seems likely that the real incomes of farmers in India have fluctuated much less in the last few years than data on costs and prices indicate. It also seems that the amount of non-monetary investment has been greater than is commonly realized because much of this sort of work-investment is hidden in the every-day activity of the farm family and its servants.

The conclusion in regard to farm management research is that data of the farm costing type will not be so useful as has been anticipated in India, for it neither reflects many of the problems most relevant to peasant decisions nor the changes in conditions which the planners need to know about in order to fit the program for agricultural development into the context of Indian peasant farming.

What would be a better employment of resources for research into Indian farm management? For broad estimates of national output of various crops and for trends in the cash costs of farm operations, individual farm records are not necessary, and in fact, other methods would be more accurate. For national magnitudes the recently adopted system of crop-cutting is undoubtedly better, and further effort should be devoted to an extension of these experiments by type of crop and division into sub-samples for smaller areas. Stratified random samples of the prices of fertilizers, iron, pumps, engines, diesel oil, land revenues and water rates, cash rents, local taxes, and the prices of bullocks and buffaloes would provide knowledge of the trends in the cost of cash inputs much more cheaply than similar information derived from detailed farm accounts.

At the present time a fuller understanding of Indian agriculture depends less on the commercial accounts of farmers than it does upon developing a picture of the Indian farmer. We have seen that the usual procedures of data collection and analysis can be misleading. Instead of pursuing this difficult and not fully relevant path, it would be better to devote the funds and personnel available for research in agricultural economics to the factors most relevant to peasant decisions: the importance of self-sufficiency, of family unity, of personal prestige, of family secrecy, of farmer-employee relations, of inter-caste relationships, of the availability and characteristics of the markets in which the peasant buys and sells, of the peasant's attitudes to these markets and to his landlord or to the local money-lender, of village customs and social relationships. It would be surprising if the results of this kind of research did not vary widely between areas in India.

Before the prices in local markets, in town markets, and in country shops can be used for imputing values and costs, it is necessary to have detailed observational reports on the workings of these markets. We know very little about how bargains are struck, the means and terms of payment and delivery, and how these terms are interpreted, the frequency of attendance at the markets by cultivators, the reasons for their attendance and the circumstances in which they attend, the systems of grading and valuing and the systems of finance and credit in each market. Here again, we should expect significant variations between different types of markets and between markets in different regions.

The normal form of farm accounts assumes a particular background--that of a commercial agriculture operating in a monetarized economy--and these accounts will be misleading in another setting. Because the settings of the Indian and western farm economies differ, because the circumstances of the Indian and the western farmer differ, and because their immediate aims differ, we must have this background first. When we have found out why the Indian farmers do or do not invest in fixed capital, various kinds of equipment, livestock, fertilizers, and crop rotations, and under what conditions they would invest more and market more, then only can we supply knowledge of farm business accounts to elucidate questions of welfare and policy.

The limitations and shortcomings of the farm costing projects which have been outlined in this paper are not the results of setting up poor projects--on the contrary, the projects are fully thought out and well organized--but of entering upon a form of research which is inappropriate to the conditions under which the Indian peasant operations and which can only be brought to useful fruition after research has produced classifications appropriate to the peasant economy.

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A Contribution to the Theory of the Firm in Sporting Competition and in Market Competition

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Louis-Schmelling paradox, 1. — The inverted joint product or the product joint, 2. — League standing effect, 3. — Fourth estate benefit, 3. — Multifirm plants, 5. — Diminishing quality returns, 8. — Input-enthusiasm effect, 8. — Roger Maris cobweb, 12. — Bobby Layne rigidity, 12. — Archie Moore invisibility, 13.

Professional sport promoters and owners of professional teams have long claimed a special position in respect to the monopoly laws and the constitutional prohibition against slave labor, and recently they have been deservedly successful in appeals to Congress. This paper presents the results of serious thought about the problem, serious thought engaged in *after* choosing sides on the issue. I submit that the "firm" in professional sports is indeed in a peculiar position vis-à-vis our accepted way of looking at the firm in a competitive market. The basic proposition can be called the

Louis-Schmelling Paradox.

If we ignore for the moment the legal reasons in the United States for avoiding a monopoly position, it is clear that the ideal market position of a firm is that of monopoly, whether to maximize profits or to maximize the comfort of life. If we consider the monopoly laws, the ideal position is as close to monopoly as the antitrust division will permit without prosecution. In brief, a firm is better off the smaller or less important the competition, and it will try to attain a situation in which it is the sole supplier.

But now consider the position of the heavy-weight champion of the world. He wants to earn more money, to maximize his profits.

* For the original stimulus to this paper I am indebted to Mr. Charles Conerly of Mara University and to Coach Ole Pro of Falstaff University.

What does he need in order to do so? Obviously, a contender, and the stronger the contender the larger the profits from fighting him. And, since doubt about the competition is what arouses interest, the demonstration effect will increase the incomes of lesser fighters (lower on the rating scale or lighter on the weighing scales). Pure monopoly is disaster: Joe Louis would have had no one to fight and therefore no income.

The boxing champion is the striking case, but the problem is equally great for any professional team. Suppose the Yankees used their wealth to buy up not only all the good players but also all of the teams in the American League: no games, no gate receipts, no Yankees. When, for a brief period in the late fifties, the Yankees lost the championship and opened the possibility of a non-Yankee World Series they found themselves — anomalously — facing sporting disgrace and bigger crowds.[1] If the Yankees, then, do not wish to monopolize their own league, why don't they buy out the National League? The answer is, of course, all those World Series receipts. "Oh Lord, make us good, but not that good," must be their prayer.

Now we must face the question of whether it is possible that there is a business which, contrary to all we have learned about the business world, finds monopoly unprofitable. The answer, economists will be pleased to learn, is no — that a business monopoly is profitable in the sporting business as well as in the business of life. The first peculiarity of the economics of professional sports is that receipts depend upon competition among the sportors or the teams, not upon business competition among the firms running the contenders, for the greater the economic collusion and the more the sporting competition the greater the profits. The paradox appears because the firm in law, as organized in the sporting world, is not the firm of economic analysis; and the item sold by the sporting firm is not the product of these firms, or not entirely. We have, in fact, the phenomenon of

The Inverted Joint Product or the Product Joint.[2]

We have long been used to the idea of a firm producing several products from an indivisible process. The sporting firms produce

1. When the San Diego Chargers of the American Football League ran roughshod over their competitors in the fall of 1961 the fans began to stay away.

2. Since a joint product refers to two products technologically resulting from a single process, we need another term for a single product resulting from discrete technological processes, and following the profession's tradition of jumbling words (value of marginal product, marginal value product) we here invert the words to symbolize single product of two processes.

an indivisible product from the separate processes of two or more firms (in law). But the product itself is a peculiar mixture: it comes divisible into parts, each of which can be and is sold separately, but it is also a joint and multiple yet indivisible product.

To be specific, professional baseball teams produce a complex product; or in common parlance several interrelated streams of utility. There is first the saleable unit of the seat in the ball park during the game, the service sold by each firm (Yankees, Senators, and intermediates) and generally regarded as the business of and the utility produced by the sporting firm. Then there is that strange sale of the utility of TV viewing where we the people enjoy the utility while nonsporting businesses pay the bill for us.[3] However, there are two other streams of utilities. There is the pennant race enjoyed by all and paid for by none. This we call the

League Standing Effect.

Of itself there is excitement in the daily changes in the standings or the daily changes in possibilities of changes in standings. The closer the standings, and within any range of standings the more frequently the standings change, the larger will be the gate receipts. Thus the free provision of the *race utility* has a favorable feed-back effect upon gate receipts, and we may treat this effect as a kind of advertising. Note that this advertising is also free to the advertising sporting firms — it has no opportunity cost — and that it too illustrates the Louis-Schmelling Paradox in that the more successful in sporting competition the firm is, the less effective is the advertising feed-back of race utility. The "league standing effect" is not limited to the consumer utility stream and the advertising feed-back because it is also a marketable commodity, but not for the producers. This quirk we may call the

Fourth Estate Benefit.

Newspapers report the play, the outcomes, and the resulting "league standings" of games, and these reports are a major cause of sales and therefore of direct and advertising revenues to newspapers (and of course to sports magazines): in fact, a case of economies external to the industry. Two separate sets of activities are needed to produce the game write-up — the game and the reporter-newspaper-printer-distributor complex. The former could occur without the latter, but the latter cannot occur without the former,

3. Which raises an interesting question about whose marginal rates of substitution on what indifference map.

yet the latter is the financial beneficiary of this product joint from two different economic spheres (although we must allow for the advertising feed-back to gate receipts from press stories).

So far as the argument has carried us we may conclude that the product of professional sporting activity is not merely (1) the match, but also (2) the "league standings" (or championship), the progress towards a championship or changes in the standings, topics of conversation, and press reports. Furthermore, (3) a business firm — Joe Louis or the New York Yankees — cannot produce any of these streams of utilities alone. It must have the cooperation of a second business firm even to produce the game; to produce the other utilities it must have the cooperation of several business firms.[4]

The conclusion, then, is that the business firm as understood in law (and therefore in common discussion) — Louis or the Yankees — is not the firm as understood in economic theory. Rather, the firm is the league, or all professional heavyweights. Once this point is realized, the theoretical conclusion is clear: each professional sport is a natural monopoly. The several joint products which are products joint of legally separate business firms are really the complex joint products of one firm, and this firm is necessarily an all-embracing firm or natural monopoly.

A natural monopoly as commonly understood is an industry in which a single firm can satisfy the market in the declining portion of its long-run average total cost curve. If defined as one in which a single firm can satisfy demand at a lower long-run average total cost than can be achieved if two or more supply the industry's product, it would be possible to have a natural monopoly where long-run costs are constant, if their level varies with the number of firms, or where average costs are rising if the minimum and rising portions are so low that any division of the market between two firms results in higher costs for both on the declining portion of the cost curve because of diseconomies external to the firm although internal to the industry.

In law a firm is regarded as a person, persons, or organization having the right to own property and to contract. In economics a firm may be defined as a "decision-making unit whose major objective is profit" (however Harry Wismer may define the term), but this definition assumes that the "decision-making" and the

4. It might be argued that any firm buying inputs from another firm requires the cooperation of the second firm, but this is stretching the meaning. The cooperating firms in sports are not willing buyers and sellers from and to each other but together (and with the press) sell to third parties.

"profit-taking" units are identical, whereas in professional sports, while the legal firm takes the profits, the league makes the decicions. Professor Robert Dorfman suggests parallels to the league in trade associations, the Eastern Railway Conference, the combination of various firms for construction jobs, and the joint ventures of Gimbel's and Macy's in the United Parcel Service and the bridge connecting the stores, holding that in none of these cases have the business firms merged. But each of these organizations is a firm by the definition, "a decision-making unit whose major objective is profit." The railways make decisions jointly about through-routing and rates, to maximize their profits, and so small a cooperative effort as common billing by a trade association is a joint decision made to reduce costs (i.e., increase profits). In short, although legally separate, in substance the associations and conferences act as would the management of a trust or holding company insofar as they reach joint decisions on marketing and pricing, and therefore can be regarded as merged.

If department stores were to withdraw from all business except the joint ownership of a delivery firm, or if railway companies were to restrict their activities to the joint management of a terminus, one would think of them as merged for any questions of economic substance. Operations such as the cooperative selling to each other and to other buyers by plumbers, carpenters, and builders in the construction industry do parallel sporting firms in that both are

Multifirm Plants.

Familiarity with the concept of a multiplant firm should not blind us to an occasional reversal of form created largely by the peculiarities of our law of property. The "plant" of the construction trades is the building site. At a minimum one might say that the "plant" of the sporting firms is the playing field, but without the league the playing field is incapable of producing the championship product, so the concept of "plant" must be enlarged to encompass the league. Furthermore, the parallel between the building industry and the sporting firms is not complete, for the sporting firms sell an indivisible product (once divided it is no product at all) to the consumer and *contribute exactly the same inputs.* The parallel should be with two or more plumbing companies joining together to sell their services as a single source of supply. Where there is joint decision-making because it is cheaper to do so, the resulting arrangement may be more easily seen as a monopoly if a (partial) cartel may be considered, as I would, a firm.

As for Gimbel's and Macy's, my mother-in-law assures me that "everyone knows they are in each other's pockets." [5]

An objection may be raised that one can have several leagues, and that these leagues are, or should be, competing firms. As one surveys the history and present state of the sporting trades one must admit the possibility, but one must also recognize that as a matter of observation there appears to be a strong tendency toward a single league, and this for one good reason: only a single league can produce that most useful of all products joint, the World Champion. Analytically we must regard the National League and the American League as one, for they come together each autumn to produce the World Series. Despite the differences in form, the substance of this World Series product is identical with the single league championship in the National Football League arrived at by business collusion in cooperative sporting competition between an "eastern division" and a "western division" team. Hereafter we should therefore refer to the two major leagues in baseball as "divisions" within the larger league-firm.

At the present time the trade of professional football is divided in two in the United States, with a competitor in Canada. There is no meeting on the field of play between the National and the American Football Leagues. The result is an absence of sporting competition, but very strong interfirm competition between the old and new leagues. Do we therefore have oligopoly? Yes, in the short run, in the same way that some American railroads have tried to compete; but in the long run, No, because this is inherently a temporary state of affairs. We witnessed a similar situation just after World War II when the All-America Conference challenged the National Professional Football League. The result in that instance was the demise of the Conference with the older League absorbing some of the teams of the bankrupt Conference. Logically we may distinguish four cases or four possible histories of interleague business competition:

1. The Major League Baseball solution: the joining of economically competing oligopolistic firms into sportingly competitive natural monopolies.

2. The professional football solution of the forties: bankruptcy for one or the other of the economically competing firms.

3. The survival of two or more leagues because they are not economically competitive. This case occurs when the leagues are

5. Mrs. Paul B. Sheldon, New York City, oral communication, March 23, 1963.

operating in different geographical areas or are inherently non-competitive in both the sporting and economic sense, as in the case of boxers of different weights, or, a few years ago, baseball players of different colors.

4. The survival of two or more leagues which are economically competitive and which could be sportingly competitive.

The first two cases have been historically the common ones. The third case is actually rarer than one might expect. Of course, when it is patently ridiculous to compete in sport — to match a heavyweight with a flyweight — two leagues or championships coexist, but where sporting competition is prevented by geographical difference the tendency is to enlarge the area of sporting competition until in fact there is only one league. Thus we find that Australian, West Indian, Indian, Pakistani, and English cricket, separated about as much as is possible (or was possible before Gagarin) merge in that great international cartel, the Test Matches. Again, soccer (mistakenly called football by literally minded foreigners), which is formally organized in teams merged in national leagues, has become a cartel of international matches. Since cartelization is necessary not only to maximization of profits but also, even especially, to maximization of output, the geographical division of the market is an inherently unstable situation usually replaced by a naturally monopolistic firm whose market region is everywhere that the sport is played.[6]

Whether or not two leagues can survive within the market area — our fourth logically possible case — depends on the facts of the matter, or, put more realistically, on the relative shapes and positions of the demand and cost functions. From the sports pages it is difficult to glean solid data to which to fit functions, but one does form the impression from the history of sports that such survival is unlikely. In effect, the argument here depends upon the acceptance of premises for which direct evidence is thin on the grounds that the conclusion reached from the premises is consistent with observation.

The long-run cost curve of seats-at-games for the league-firm is

6. The apparent exceptions of United States and Japanese baseball and of the sportingly independent United States and Canadian football leagues partly reflect difficulties of amalgamation across national boundaries, but more important, both Japanese and Americans agree that the Japanese teams could not win an international World Series and it is thus unnecessary to prove by formal competition that the American winner is the champion. But even here when exhibition games begin to show the American superiority at its own sport is questionable, one should expect cartelization into an international league. Perhaps, too, the pressure for Canadian-United States competition is low because it is not widely believed that the Canadians might win.

probably flat or almost flat. As one expands the firm the quality of the product is affected by two contrary tendencies. The first is

Diminishing Quality Returns

because the quality of raw materials declines as less efficient inputs are drawn into the sport. One may treat this as producing an inferior product for which there is another, lower demand function for lower quality "game seats" (which means a reduction in revenue per game seat).[7] Alternatively one may regard the diminishing quality returns as an increase in the cost of producing the same quality of game seat. In either case there is a limit to the size of the most efficient (least minimum average cost per constant quality game seat) league-firm, given by the cost function. The limit on size applies no matter how few or many leagues there are, so that one large league can provide any quantity of product as cheaply as two or more smaller firms. Thus there is no efficiency argument against monopoly, and there is a likelihood that the first league in the sport — like the first utility in a city — will become a monopoly. But any upward shifts in costs (or downward shift of quality and therefore the substitution of a new demand curve) are counteracted by the

Input-Enthusiasm Effect.

Whereas one finds that human abilities in various directions are randomly distributed in any population, one also finds that skillabilities in sports are concentrated regionally. How else can we explain the disproportionate number of first class tennis players and cricket batsmen from Australia, or runners from Australia, England and Scandinavia, or of passing quarterbacks from Texas, other than by reference to the public attention and private concentration put into the development of these particular skills? And this input into the inputs is a result of the enthusiasm for the sport in the area, which in turn is both a consequence and a cause of the scale of operations of the sport in the area. In other words, the larger the scale of operations, the higher the quality of inputs and of products, or the lower the cost of a constant quality game seat.

When one shifts one's focus from the use of resources or the quality of product to the money costs it is reasonable to suppose that less perfect inputs (producing lower quality games) will earn a lower return, so that the cost per quality unit will not change as much

7. However, we know by introspection that the reduction will be small since the appeal of the seat depends mostly on the uncertainty of the outcome and on the weather.

as the quality changes. Both the "enthusiasm effect" and the lower salaries of lower quality sportsmen will flatten any rising tendency in money costs consequent upon diminishing returns. Enthusiasm simultaneously increases (1) the demand for game admissions and therefore the derived demand for skilled players and hence their salaries, so that the monetary cost of each unit of the larger supply of higher quality players rises; and increases (2) the supply of skilled players. The net effect of the increase in demand on gate receipts and on derived demand will merely tend to shift the curves northeastward without a "squeeze" on profits, while the underlying "enthusiasm effect" will lower the supply schedule of inputs. Larger scale, therefore, does not necessarily increase costs more than revenue.

All this, of course, is in conformity with our economic expectations, but the supply mechanism is not market pricing. The supply of skilled inputs is developed in the sphere of amateur activity — specificially in the schools — so that the equilibrating mechanism works not through price response but through enthusiastic response and the human desire to conform to standards of group approval.

The net effect of diminishing returns, of the tendency toward constant money costs in quality units of input, and of the "enthusiasm effect" may be constant costs, increasing costs, or decreasing costs. In the absence of information, I guess that the long-run supply curve of the league-firm is roughly constant for output units of games by pairs of teams.

One usually expects a constant cost industry to be competitive, *ceteris paribus*; but *cetera non sunt paria*. Even if professional sports are constant cost industries the "World Champion utility" can only be created by cartelization. Furthermore, there is interdependence between demand and supply. The total size of the industry (in game-seats) is determined by the intersection of demand with supply, and if the long-run supply curve is horizontal, one might say that it is strategically determined by demand. But demand itself is in large part a reaction to the sporting importance of the events, the sporting importance depends upon the "fourth estate effect" and the "public conversation effect," and since these effects in turn depend upon the scale and universality of the championship at stake, the function will move up to the right for a more conclusive championship, and down to the left if the leagues decided to avoid meeting in a play-off. Thus demand and supply tend to intersect at the point of a single, monopoly championship wherever that intersection may be (the You Don't Say Law).

On the supply side the long-run cost curve is horizontal, but the height of the curve above zero depends on the costs to the business or league-firms. These costs consist mostly of two elements: (1) fixed costs of interest or rent on the stadium capital and the cost of equipment and transportation for the firm, and (2) quasi-rents for the players. The price of any player is partly a function of his willingness to play, for the athlete need not enter the players' market since he has alternative opportunities, but once his minimum supply price is met the team firm is paying for an unreproducible talent, or a quasi-rent. If there are two firms bidding for his talents the quasi-rent will probably be higher than if there is only one bidder who is engaged with the player in bilateral bargaining. Since league firms typically prohibit multiple bidding by their team component firms counterbidding arises only when there are two independent leagues.[8] The existence of economically but not sportingly competing leagues thus raises the money costs to both leagues and so endangers profits. While in logic there is no reason why both leagues cannot continue to enjoy profits, or at least no losses, they are unlikely to do so. The salary of a player has much in common with ground rents, but the analogy must be understood to apply by lot, and is not complete. As in the result only one store actually uses one lot, so only one league employs one player. But whereas several stores can compete in a shopping area when they sell the same products because nonrental costs of and demand for the products of each store are the same, two or more leagues probably will not enjoy identical nonrental costs and demand. Transport to and from Kansas City from other points will not be the same as to and from Houston, while the urge to go to a ball game will differ from city to city (or from the Bronx to Brooklyn). Only in the unlikely event that both leagues field teams in exactly the same cities (and with exactly the same appeal to historic loyalties) will there be a no-profit-no-loss Chamberlinian equilibrium. One therefore expects competitive bidding eventually to raise quasi-rents for one league or the other above the spread between its other costs

8. A variety of liberties and restraints characterize the quasi-rent bargaining process in professional sports. In American football the "player draft" eliminates within-league counterbidding; in baseball the teams must bid against each other to contract with a new player but once the contract is signed the other teams cannot make counteroffers during the following years. Similar arrangements exist in other team sports, but in the sports of individual competition, e.g., boxing, the player and the business firm merge so that the quasi-rent payment to the competitor merges with his windfall profits and his income is undifferentiated.

and its receipts, at which point the fourth solution becomes the second.[9]

Competition exists not between teams or leagues but between sports. Paying fans and newspaper readers prefer one or another sport — I suspect largely because Dad preferred it — but shifts in taste do occur and the leagues, or even the component teams acting independently, can encourage such shifts. Between the wars the New York (football) Giants built a loyal following by selling tickets extremely cheaply to children. Colorful people, youth leaders, immoral people, all can be used to attract attention to a sport. Ice hockey undoubtedly has increased its popularity over what it would otherwise have been by the public notice of brawls during games.

Definite divisions of the sports market seem to be characteristic. First there are the national divisions, marking off American baseball from Commonwealth cricket, American football from international soccer. Second, there are the seasonal divisions, leaving baseball dominant in the spring and summer, football in the autumn, and basketball in the winter. Third, there are divisions among social classes: cricket is upper-class and soccer working-class in England; baseball was the sport of the small town in America while professional football grew up in the industrial cities. Although these divisions may not be immutable they are certainly hard to change. Professional football has crept back into the late baseball season and forward into the basketball-hockey season, but efforts to establish an American soccer league in monopolistic competition with baseball (during June, July, and August) have met with little favor.

Within the general framework of a whole-sport monopoly there are some additional peculiarities. We are familiar with the cobweb theorem, which depends upon next period's supply responding to this period's demand. But in professional sports we have the

9. Professor Benjamin Higgins pointed out that some other trades require competition to succeed. One is law, a single firm needing others to fight in court; another is fashion, the interest arising from the differences between two designers. There are perhaps more for there is no reason to believe that a "peculiar economics" is confined to professional sports alone. However, the two examples, while requiring competition for profits, are not cases on all fours with professional sports. Fashion requires separate, economically as well as aesthetically, competing units and so does not tend to coalesce into a monopoly. Furthermore, the supply of fashionable goods is the product of many factories and stores all over the world, not of the designers themselves. They are more like leading architects than leading coaches. The practice of law also does not tend toward monopolization of the business firms; and unlike both sports and fashion its practice cannot be called inconsequential. The need for competition within the courts stems not from the economics of business, as it does in professional sports, but rather from the adversary structure of our system of justice. Whereas sports require sporting competition and business monopoly, fashion and law require both interfirm business as well as aesthetic and legal competition.

Roger Maris Cobweb.

The demand for Roger Maris' services for next year depends upon his performance this year. The cobweb has been inverted with demand reacting after a delay to supply; and the 1962 quasi-rent depended upon how ruthlessly Maris pursued the home-run mantle in 1961. Note that to introduce the concept of expectations does not alter the point, for the famous hog cycle — in which the sex urge of pigs responds to slaughtering prices in Chicago — is also one of expectations. Here one might note that an explosive cobweb is unlikely since the supply curve of talent in the quasi-rent range must be vertical and the height above the minimum price which Mr. Maris will accept and the depth below the maximum which the Yankees will offer Mr. Maris depends upon bargaining technique. Below the minimum which Mr. Maris will take we have a horizontal supply curve and Mr. Maris leaves the market.

Whether marginal analysis of input pricing will work at all is doubtful. Whereas one can speak of the marginal steel worker without naming him it seems a little foolish to speak of the marginal quarterback of the Steelers. Marginalism seems to break upon the

Bobby Layne Rigidity.

There are possibilities of substitution of an indirect sort. Clearly one cannot field more than eleven laborers in a football game, "nor can one use two poor quarterbacks instead of one good one"; but one can use a better line to give a weaker passer more time or a faster fullback to make up for the absence of two first-class halfbacks. Such considerations obviously weigh with teams in their drafting and trading operations since Baltimore let Mr. Lipscombe go and the Giants put more effort into finding defensive personnel than into finding new offensive backs. But here one fails to see just how the Colts and the Giants compute the marginal returns of tackles, of pass receivers, and so forth. In baseball batting averages and earned-run ratings provide a better guide to marginal productivity computations; but in both sports the value of the marginal product is only indirectly and roughly related to these sporting measures since it is the effect upon the gate receipts which counts and gate receipts have no stable functional relationship with the sporting measures. In boxing the idea breaks down completely since the entire labor input is one and always tries to be its best. Thus the ultimate of the Bobby Layne Rigidity is the

Archie Moore Indivisibility.

Having discussed the demand and cost structure of the professional sports industry certain parallels with other industries will be apparent. The firm of economic theory is the league, and the league is a natural monopoly with demand and cost and profit adjustments always tending toward unification of all league-firms into a single *firma-firmorum.*

The plant of economic theory is the game, which requires three factors of production: namely, land, labor, and labor. In different sports each of the factors has a critical minimum beyond which additions to output fall off rapidly; but the law of variable proportions is here invariable since two of the factors can be used simultaneously only in specified quantities and in some sports all three are subject to this limitation and the additional inputs logically come under the classification "repair and renewal." At this point one can also see the importance of institutionalism for the limits on the employment of labor trace back to ancient and irrational traditions of sportsmanlike behavior, and to break them by, say, fielding a fifth back armed with a switch blade would be impermissible to members of the tribal society despite the fact that any United Nations expert could point out the obvious technical advantages. To my knowledge only the Canadians have adopted the fifth back, and there is no evidence in published reports that even the Canadians have equipped this man properly. On the other hand, economic sophistication of a high order is shown by the larger end zone and the elimination of the fourth down in a country with large unused areas of land and a small population.

We often think that if plant costs are constant (but here remember that the team or business firm does not constitute a plant) there can be no advantages of scale except as monopsonistic power is exerted; but we have already established those internal and external economies of scale called "league standing" and "fourth estate effect." Thus we justify horizontal integration in a natural monopoly.

Vertical integration takes different forms in different sports. We would have to stretch meanings to visualize vertical integration in boxing, but we are all familiar with the phenomenon in baseball. Here one familiar with the problems of underdeveloped countries and the earlier stages of industrialization will recognize the characteristic need to recruit and commit the labor force. It is also the arena of free contract negotiation; and is finally analogous to the tomato farms held by Heinz.

In American football there is still another organization often referred to as the university. The idea is to develop commitment before recruitment largely on the grounds that it is cheaper — or rather, on the grounds that the social costs of selection and training are shifted onto the community of academics, alumni, and taxpayers. But here we can go no further since this information is as well hidden as are the accounts of peasants.[1]

Variety of organization is found in the organization of recruitment more than in any other facet of the economy of professional sports. One can mention, in addition to the two forms already discussed, the feudal organization of village and county cricket, the climatic-linguistic character of ice-hockey recruitment, and less recently the religious qualifications for animal wrestling in the Roman arena. Here alone I feel economists should support the remaining elements of freedom, conflict, and competition in the business organization of professional sports.

Otherwise it is clear that professional sports are a natural monopoly, marked by definite peculiarities both in the structure and in the functioning of their markets. Consequently professional leagues have every economic ground to appeal to legislatures, to courts, and to the public on the ground that

We fall if you divide us;
We stand if Johnny Unitas.

1. The university farm team also appears to be the last stronghold of the third kind of integration problem. Most economists oppose integration of business firms either horizontally or vertically, but somehow manage at the same time to favor racial integration. This paradox is explained by the economic inefficiency of racial segregation, and the uneconomic character is perhaps sufficiently illustrated by an old lament of the Southwest which my daddy used to sing:

There was a blackguard from the South
For our sisters he was born too uncouth;
He couldn't play Royal's
Or even Frank Broyles',
So Syracuse hired the youth.

UNIVERSITY OF TEXAS

THE LIMITATIONS OF INDIAN VILLAGE SURVEY DATA

By Walter C. Neale

During ~~its~~ the ten years since independence the Indian government and other institutions have been sponsoring research into the conditions and structure of rural India and into the management and economics of farming. While these data appear to be a useful source of information, the experience of a year in analyzing the material has revealed stringent limitations to its usefulness, as well as emphasizing the conditions in rural India which make it difficult to collect usable data.

The usual method of gathering rural data in India is the "village survey".[1] These surveys are an effort to encompass a number of aspects of the life of the whole village. Their immediate aims differ. Some are designed to discover the pattern of land distribution; some the types of farms, ~~of~~ inputs, outputs, and the profits of farming; some the standard of living; some

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1. The making of these surveys began with Dr. Harold H. Mann when he was principal of the College of Agriculture, Poona, forty years ago. See his Land and Labour in a Deccan Village, Study No. 2, London, Oxford University Press, 1921.

the pattern of migration; some the incidence of debt; and so on. The most ambitious attempt a statistical portrayal of these characteristics plus demography and education. The results of some surveys have been published[1] but the results of others have not. Recently the Agro-Economic Centers[2] have been surveying a large number of villages and it is at these institutions[3] that the interested scholar will find the largest collections of village survey data with which to work.[4]

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1 e.g. B. S. Agarwala "Economic Survey of Mirapur Basahi Village", Indian Journal of Economics XI (1930-31); R. L. Bhalla Report on an Economic Survey of Bairampur, Lahore, 1922; B. G. Bhatnagar Studies in Rural Economy of Allahabad, Allahabad, 1924; D. R. Gadgil and V. R. Gadgil A Survey of Farm Business in Wai Taluka, Poona, 1940; M. Hasan Akhtar An Inquiry into Mortgages of Agricultural Land in the Pothwar Assessment Circle of Rawalpindi District in the Punjab, Lahore, 1926; S. K. Iyengar Economic Investigations in the Hyderabad State, 1929-30, Hyderabad (Deccan) 1931; S. K. Iyengar The Hyderabad Economic Village Studies, Hyderabad (Deccan), 1952; S. P. Jain Relationship Between Fertility and Economic and Social Status in the Punjab, Lahore, 1939; G. C. Mukhtyar Life and Labour in a South Gujarat Village, Calcutta, 1930; V. Shah & S. Shah Bhuvel; Socio-Economic Survey of a Village, Bombay, 1949; J. B. Shukla Life and Labour in a Gujarat Tulaka, Calcutta, 1937; R. Singh & W. Roberts "An Economic Survey of Kala Gaddi Ghamman, 1932" in Reserve Bank of India Review of the Cooperative Movement in India, 1939-40, Bombay, 1941; G. Slater Some South Indian Villages, London, 1918; P. J. Thomas Some South Indian Villages: A Resurvey, Madras, 1940.

2. The Gokhale Institute of Politics and Economics, Poona; the University of Madras; The Delhi School of Economics, University of Delhi; and the University of Santiniketan, West Bengal.

3. And at the College of Agriculture, Kanpur.

4. There are also six farm costing projects in the Punjab, Uttar Pradesh, West Bengal, Madhya Pradesh, Bombay and Madras. The projects are designed to discover the costs of production and input-output profile of various crops and sizes of farms. These centers conduct surveys of the usual interview kind and also keep records on the spot for another group of farmers in an effort to discover if the more expensive on-the-spot record keeping is worthwhile in terms of the differences in results. These are purely farm business research projects and differ in scope and technique from the village surveys. See my "Farm Costing Research in India."

The raw data is in the form of questionnaire sheets each filled in for individual families.[1] Frequently there is a "family questionnaire" covering such basic data as family composition and size of landholding for every family in the village, and then more detailed questionnaires on the specific matters in doubt for, say, every fifth family, taken from the family questionnaires arranged in order of size of holding. Until recently these questionnaires were filled in by field workers who visited the village as ~~little~~ seldom as one to three or as ~~much~~ often as thirteen times a year.

It was in attempting to establish modal type-farms from this kind of village survey data that the writer discovered the limitations of this kind of data and the great difficulties in the way of collecting better data.

Limitations of the Data

For the purposes of farm business analysis usable data must possess certain characteristics.

First, it is necessary to know what the data represents. The normal way to establish this knowledge is to sample the universe under investigation. Some characteristics of the universe must be known, or guessed at, to set up the sample, and the sampling error is determinable

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1. Although the questionnaires are usually in the local language, with a little help one can quickly master them.

from the data collected. If the universe is small and there is doubt about some particular aspect of the survey, let us say how to stratify the sample, a complete enumeration will establish additional characteristics.

In India this normal sampling procedure is generally modified. The universe is often too large to permit the listing of all the units for sampling purposes, and the geographical area of interest is usually so large as to make the interviewing of a proper sample financially impractical. Consequently the usual method is to pick one or more villages which are thought to be representative of the area and to take the samples from these villages as if they were the universe. Casual observation and common experience tend to justify the belief that villages within an area have much in common, and it is held that informed opinion can pick a suitably representative village, even though finance or convenience[1] limits the choice.

This method of setting up the survey is the one generally followed in India, and presently being followed by the institutions conducting the Agro-Economic Surveys for the Planning Commission. So far as this writer has been able to determine, it is the method followed in all village surveys.[2] So far as knowing what the data represents, the

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1. A village easy of access and not too far from the investigating institution, so that the field staff can get to and from the village in a reasonable time.

2. Two other forms of rural research are an exception to this generalization: the Punjab Board of Economic Enquiry keeps farm accounts for some thirty farmers scattered throughout the Punjab, who are representative of cultivating proprietors in regard to the size of their holdings but whose recruiting has been ad hoc; and six Farm Costing Project Centers gather records from farmers selected by the Ministry of Food and Agriculture in a stage sampling procedure from district to village to cultivator. See my "Farm Costing Research in India."

Indian data is satisfactory. In using the data the sampling procedure is sufficiently clear so that the analyst knows the limitations to generalization and can proceed as he would with any data.

Second, in addition to knowing what the data represents, it is also necessary to know that the errors of observation are not great, or to know the direction and degree of bias and error. The limit is provided by the rule that errors of observation must be less than the changes, variations, or comparisons which one wishes to study. If one cannot rely on the accuracy of the data to this extent, there is no point in analyzing it.

Third, it is necessary that the data be complete within its own terms of reference. Data need not cover all of the activities of the family, or even all of its agricultural activity, but whatever the data purports to represent, it must represent in full.

It is on the second and third counts that Indian village survey and farm management data fall down. The errors of observation are very great and it appears to be impossible to determine in particular cases[1] either the direction or degree of error. In addition to the

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1. For certain wide classifications of data the direction of bias can be guessed with a good deal of confidence. In general, output data will be understated in order to avoid supplying evidence that there is greater taxable capacity than had been thought, except in the cases of data from Community Projects where the output figures are very likely to be overstated in order to prove that the Project is succeeding. However, for any farm or small group of farms one cannot be sure which of these considerations will triumph, and as the text will show, there are so many other considerations from ignorance to neighbors' opinions that a plausible argument can be made either for over-or for understatement in any specific case.

inaccuracy of recorded data one finds that many of the pieces of information which were supposed to be included were not recorded. Here also one finds that it is not merely that parts of the whole were left out so that the analyst can eliminate consideration of the classification at fault. Rather, unknown amounts of data throughout the survey are missing. The analyst discovers that the data is clearly incomplete, but where and to what extent he cannot learn.

Data sheets from surveys will illustrate the inaccurate nature of the data. For this purpose four typical accounts are shown, in Tables I through IV, and summaries of the major discrepancies in these accounts occur in Tables V through VIII.

Tables Ia, IIa, IIIa, and IVa present the replies given by the cultivators at the end of the survey year in response to questions about crop patterns, seeding rates, yields, and rental payments. In the course of the survey year a field worker visited each farmer once every four weeks to record information about operations during the preceeding month. By summing the thirteen data sheets for each farmer we can compute a second annual return to compare with those in Tables Ia, IIa, IIIa, and IVa. These second annual returns are shown in Tables Ib, IIb, IIIb, and IVb. If both the monthly and the annual replies are accurate the "a" and "b" tables should give the same figures.

Clearly they do not do so. Tables V, VI, VII, and VIII show the crops grown and yields for the annual returns and the sum on the monthly returns in parallel columns. In no case is there agreement either in the list of crops or the yields.

TABLE I a

ENTERPRISE A

Annual Summary Report by Cultivator

Kharif Crop	Area (guntas)*	Seed (payali)**	Yield (payali)	Landlord's share (payali)	Fodder Yield (sheaves)	Landlord's Share of fodder (sheaves)
Bajri (millet)	202	3	19	--	1500	--
Rala (millet)	7	.75	6.5	--	--	--
Tur (pulse)	34	2.5	19	--	--	--
Mug (pulse)	9	1.25	--	--	--	--
Groundnut	15	4	(Rs.15)	--	--	--
Oranges	18	--	(Rs.60)	--	--	--
Curr.Fallow	156	--	--	--	--	--
Perm.Fallow	97	--	--	--	--	--
Total	538					
Rabi Crop						
Jowar (millet)	168	3.5	192	--	1000	--
Gram (pulse)	14	2.25	19	--	--	--
Kurdi (safflower)	10	1.5	19	--	--	--
Brinjals (egg-plant)	4	.06	(Rs.10)	--	--	--
Tobacco	8	.06	10	--	--	--
Curr.Fallow	237	--	--	--	--	--
Perm. "	97	--	--	--	--	--
Total	538					

Area owned - 530 Guntas; Area cultivated - 538 guntas; therefore, area leased in 8 guntas; held in 11 plots.

* One gunta equals one fortieth of an acre.
** One payali equals one tenth of a mound or 8.2 lbs.
" " " four seers.

TABLE I b

ENTERPRISE A

Receipts and Disposals of Agricultural Produce:

Sum of Thirteen Four-Weekly Reports

CROP	Yield (payali)	Used as Seed (payali)	Other Input Use (payali)	Sales (payali)	Sale Value Rs.*	Sold to	Place at Which Sold
Jowar (millet)	120	7.5	--	32 (plus 12?)	23/4 (plus 24?)	--	Kodegaon
Rala (millet)	7.5	--	--	--	--	--	--
Bajri (millet)	63	--	.25	--	--	--	--
Hulga (pulse)	3	--	--				
Kurdi (safflower)	20	--	--	8	15 16	Merchant	-- Ahmednager
Tur (pulse)	18	--	--	12	20	"	"
Tobacco	15	--	--	30	200	"	"
Gram (pulse)	12	--	--	--	--	--	--
Vegetables	--	--	--	--	15	Customer	Kodegaon
Oranges	1700 Fruits	--	--	1700 Fruits	51	Merchant	Ahmedabad
Grass	2150 Sheaves 150 Bundles	--	--	900 Sheaves	105	--	---
Cotton Seed	--	--	7.5	--	9	--	--
Fodder	4100 Sheaves	--	--	1550 Sheaves	231 (?)**	--	--
Tree Fuel (logs, twigs)	140 --	--	--	40	15	--	--
Dung fuel	4 bags	--	--	--	--	--	--
Dung manure	2.5 cartloads	--	--	--	--	--	--

* Rs. 1 equals $.21; 16 annas is a rupee, Rs. 1-1/2 written as Rs. 1/8.

** Meaning of record in doubt.

TABLE II a

ENTERPRISE B

Annual Statement

Kharif Crop	Area (guntas)	Seed (payali)	Yield (payali)	Landlord's share (payali)	Fodder (straw) yield (sheaves)	Landlord's share of fodder (sheaves)
Bajri (millet)	134	2	77	38	1000	400
Math (pulse)	7	.1	9.5	5	-	-
Hulga (horsegram)	5	.75	9.5	4	8 carpets-full	
Tur (pulse)	4	.1	5	2.5	-	-
Curr.Fallow	359	-	-	-	-	-
Perm. Fallow	23	-	-	-	-	-
Total	532					
Rabi Crops						
Jowar (millet)	322	5.75	48	24	2000	1000
Wheat	7	1.5	12	4.25	-	-
Gram (pulse)	30	6	36	16	4 carpets-full	
Kurdi (safflower)	30	3.5 seers	14.5	8	-	-
Curr.Fallow	120	-	-	-	-	-
Perm. "	23	-	-	-	-	-
Total	532					

Area owned - 255 guntas; Area cultivated - 532 guntas; therefore, area leased in -- 277 guntas; held in 10 plots.

TABLE II b

ENTERPRISE B

Receipts and Disposals of Agricultural Produce

Crop	Yield (payali)	Used as Seed (payali)	Other Input Use	Sales (payali)	Sale Value (Rs.)	Sold to	Place at which Sold
Jowar (millet)	80	-	-	32	24/2	Govt.levy	Kadegaon
Bajri (millet)	75	-	-	-	-	-	-
Bajri (millet) Muth & Hulga (pulses)	(Re.1/-)	-	-	-	-	Another Farmer	Mehekir
Math (pulse)	3	-	-	-	-	-	-
Howri (pulse)	4	-	-	-	-	-	-
Gram	10	-	-	-	-	-	-
Wheat	6	-	-	-	-	-	-
Kurdi (safflower)	6	-	-	-	8/-	-	-
Tur (pulse)	2	-	-	-	-	-	-
Tree fuel	1290 seers	-	-	140	24/8	Customer	-
Sarmat fuel (fodder)	-	-	-	400 sheaves	10/- 20/-	-	Ahmednagar -
Husk fuel	-	-	-	3 carpets-full	2/4	"	-
Oil cake	-	- 30 seers		-	-	-	-
Grass	1000 sheaves 180 bundles	-	-	1000 sheaves &180 bundles	40/- 75/-	-	Ahmednagar
Fodder	2800 sheaves	400 sheaves		300 sheaves	-	-	Ahmednagar

TABLE III a

ENTERPRISE C

Annual Summary Report by Cultivator

Kharif Crop	Area (guntas)	Seed (payali)	Yield (payali)	Land-lord's share (payali)	Fodder Yield (sheaves)	Landlord's share of fodder (sheaves)
Curr.Fallow	499					
Perm. "	4					
Rabi Crop						
Jowar (millet)	469	9	576	344	2000	1200
Kurdi (safflower)	60	2.5	13	-	-	-
Curr. Fallow	0	-	-	-	-	-
Perm. "	4	-	-	-	-	-
Total	533					

Area owned - 0 guntas; Area Cultivated - 533 guntas; therefore, leased in - 533 guntas; held in 2 plots.

TABLE III b

ENTERPRISE C

Receipts and Disposals of Agricultural Produce

Sum of Thirteen Four-Weekly Reports

Crop	Yield (Quantity)	Landlord's Share (Quantity)	Used as Seed (payali)	Other Input Use (Quantity)	Sales (quantity)	Sale Value (Rs.)	Place at Which Sold
Bajri (millet)	-	-	-	-	6 payali	-	relig. gift
Jowar (millet)	-	360 payali	8	-	-	-	-
Fodder	2000 sheaves	1000 sheaves	-	450 sheaves	100 sheaves 500 "	20/-	a partner
Grass	65 bundles	-	-	-	15 bundles 30 "	7/- 30/-	Ahmednagar
Husks	-	-	-	3 carpets-full	-	-	-
Mangoes	500 fruits	-	-	-	-	-	-
Tree fuel	690 seers	-	-	-	154 seers	6/-	Ahmednagar
(Labor)						(10/-)	(Received as wages)

TABLE IV a

ENTERPRISE D

Annual Summary Report by Cultivator

Kharif Crop	Area (guntas)	Seed (payali)	Yield (payali)	Land-lord's share (payali)	Fodder Yield (sheaves)	Landlord's share of fodder (sheaves)
Curr. Fallow	363	-	-	-	-	-
Perm. "	165	-	-	-	-	-
Total	528					
Rabi Crop						
Jowar (millet)	331	16	244	-	1900	-
Wheat	7	1	24	-	5 carpets-full	-
Kurdi (safflower)	25	2	24	-	-	-
Curr. Fallow	0	-	-	-	-	-
Perm. "	165	-	-	-	-	-

Area owned - 600 guntas; Area Cultivated - 528 guntas; therefore, area leased out - 72 guntas; held in 7 plots.

TABLE IV b

ENTERPRISE D

Receipts and Disposals of Agricultural Produce

Sum of Thirteen Four-Weekly Reports

Crop	Yield (payali)	Used as seed (payali)	Other Input Use (payali)	Sales (payali)	Sale Value (Rs.)	Destination of Sale
Jowar (millet)	95	8	-	3	6/-.	Govt. Levy at Kodegaon
Karale (a vegetable)	1-1/2	-	-	-	-	-
Gowar (pulse)	-	-	-	-	15/-	Ahmednagar
Kurdi (safflower)	15	-	-	-	-	-
Mari (millet)	15	-	-	-	-	-
Wheat	30	1.5	-	-	-	-
Bajri (millet)	10	-	-	-	-	-
Vegetables	1	-	-	1 8	0/8 4/0	Mehekri Ahmednagar
Onions	28	-	-	7.5	4/0	Mehekri
Oil cake	-	-	7.5	-	-	-
Cotton Seed	-	-	5	-	-	-
Mangoes	500 fruits	-	-	400 frts.	40/0	Ahmednagar
Fodder	1400 sheaves	-	600 sheaves	-	-	-
Tree Fuel	305	-	50	40 50	6/0 12/0	Kodegaon Ahmednagar
Husks	-	-	7 carpets-full	-	-	-
Sarmat	-	-	150 sheaves	-	-	-
Grass	1000 sheaves 3500 " recd. in capacity of landlord		500 sheaves	-	-	-

TABLE V

ENTERPRISE A

Crop and Yield According to Annual Report of the Cultivator			Crop and Yield According to Four-Weekly Reports by the Cultivator: Sum of the 13 Reports	
CROP	Yield (payali)	Yield of Fodder (straw) (sheaves)	CROP	Yield (payali)
Bajri (millet)	19	1500	Bajri	63
Jowar (millet)	192	1000	Jowar	120
Rala (millet)	6.5	-	Rala	7.5
Gram (pulse)	19	-	Gram	12
Tur (oil seed)	19	-	Tur	18
Mug (pulse)	?	-		
Kurdi (oil seed)	19	-	Kurdi	20
Groundnut	(Rs.15)	-		
Oranges	(Rs.60)	-	Oranges	(1700 fruits)
Brinjals (eggplant)	(Rs. 10)	-		
Tobacco	20	-	Tobacco	15
			Vegetables	(Rs. 15)
			Hulga (pulse)	3
			Cotton Seed	(Rs. 9)
Fodder, total of above		2500	Fodder	4100 sheaves

TABLE VI

ENTERPRISE B

Crop and Yield According to Annual Report by the Cultivator			Crop and Yield According to Four-Weekly Report by the Cultivator: Sum of the 13 Reports	
CROP	Yield (payali)	Yield of Fodder (straw) (sheaves)	CROP	Yield (payali)
Bajri (millet)	77	1000	Bajri	75
Jowar (millet)	48	2000	Jowar	80
Math (pulse)	9.5	-	Math	3
Hulga (pulse)	9.5	8 Carpets-full		
Tur (pulse)	5	-	Tur	2
Wheat	12	-	Wheat	6
Gram (pulse)	36	4 Carpets-full	Gram	10
Kurdi (safflower)	14.5		Kurdi	6
			Bajri, Muth & Hulga	(Re.1)
Fodder (sum of above)	-	3000 & 12 Carpets-full	Howri	4
			Fodder	2800 sheaves

TABLE VIII

ENTERPRISE D

Crop and Yield According to Annual Report by the Cultivator			Crop and Yield According to Four-Weekly Reports by the Cultivator; Sum of the 13 Reports	
CROP	Yield (Payali)	Yield of Fodder (straw) (sheaves)	CROP	Yield (Payali)
Jowar (millet)	244	1900	Jowar	95
Wheat	24	5 carpets-full	Wheat	30
Kurdi (safflower)	24	-	Kurdi	15
			Karale (a vegetable)	1.5
			Gawar (pulse)	?
			Wari (millet)	15
			Bajri (millet)	10
			Vegetables	1
			Onions	28
			Mangoes	500 fruits
Fodder, total of above		1900	Fodder	1400 sheaves & 3500 " in capacity of landlord

In Enterprise A the list of crops is not the same in the annual statement and in the sum of the monthly statements. The yield figures for jowar and bajri do not resemble each other in the two statements, and the same is true of fodder yield. Enterprise B presents similar discrepancies in jowar, wheat, gram, hulga, and kurdi. Enterprise C shows Kurdi on one schedule but not on the other, bajri the other way around, and a discrepancy in jowar, where no yield is shown in Table III b. Enterprise D lists far more products monthly than it does annually, and again the output figures differ, especially for jowar, fodder and kurdi. These figures cannot be reconciled by assuming that monthly yields are net of rental payments except in the case of Enterprise B where we can add the 8 payalis of landlords' share in Table II a to the yield of 6 payalis in Table II b to get within .5 payali of the yield figure in Table II a. In all other cases the discrepancy is too large. In Enterprise A ~~there is~~ too little land is leased in to ~~account for the amount of rent needed for a reconciliation~~ allow a reconciliation by including a reasonable allowance for a rental payment, and Enterprise D leases in no land. Where the discrepancies are smaller the within-schedule discrepancies are still larger than the inter-group variations in yield which one can reasonably expect. and leases out too little to allow us to account for discrepancies by an unrecorded rent

The rental payments recorded for Enterprise B are clearly absurd. ~~Virtually half of every crop is recorded as~~ Where recorded the landlord's share is almost always one half of the crop and ~~While~~ a 50/50 sharecropping agreement is common in the area believed to be Farmer B leased only half the land he cultivated, owning the other half, yet

The arithmetic implication is that he gave the entire yield of the 277 guntas leased in to the landlord, and that the crop pattern on these 277 guntas was identical with the crop pattern on the 255 guntas which Farber B owned.

Since the monthly figures are gathered much closer to the time at which the transactions to which they relate take place, it seemed reasonable to assume that the monthly figures could be trusted as against the annual, but this reasonable assumption cannot be maintained. Although provision was made in the monthly schedules for recording rents, Enterprise B does not mention any payments for his 277 guntas of rented land. Enterprise D records receipt of 3500 sheaves of fodder as rent, but no bajri or jowar grain. If this be true it is most unusual since the main product is the grain, not the fodder; in all other cases the main rental payment is the grain, and a share of the grain is almost universally regarded as the appropriate rental payment in the area. We must therefore assume that Farmer D did not report his true returns from rent. Only Enterprise C records a rental payment reasonable on its face, and then records it differently at different times (as 344 and as 360 payali of jowar, but makes no mention of a rental payment for bajri and kurdi land or for the mango grove).

Such doubt as this evidence throws on the monthly schedules is reinforced by the obvious incompleteness of the schedules. The incompleteness is particularly marked in regard to inputs and the disposal of produce. While the absence of data does not show that the data which is reported is faulty, it does raise the question of how successful a method is, when the method leads to such a result.

These and other schedules were brought to the attention of persons acquainted with the agriculture of the area and familiar with conditions during the year in which the data was collected. They were unanimously of the opinion that the yield figures in many of the schedules were totally unreasonable considering the character of the village and the season in that year. Efforts to rationalize the discrepancies or account for them otherwise proved unsuccessful. The conclusion that the schedules were badly in error was further supported by the fact that an analysis of the village "balance of payments" and the village "annual surplus or deficit", which had previously been computed, had shown entirely inexplicable vagaries and inconsistencies.

These schedules have been analyzed here in such detail because they are among the better survey schedules in India. The writer has examined other accounts, and has often been faced with the difficulty that there are no internal checks of the consistency of the data. The survey from which the above schedules were drawn was constructed

to provide such internal checks of consistency, and no effort was made to revise or to force the data to fit a possible pattern. With other data it is often difficult and sometimes impossible to determine ~~data~~ whether the data is in error, or if it is in error, in just what way it is in error. However, as the following section will show, there are reasons for believing that perhaps most of the data in village surveys and farm surveys is in error, and the absence of internal checks does not increase the analyst's faith in the data.

The inconsistencies and impossibilities set forth in the above analysis are not isolated instances, but illustrate the general character of the data in Indian surveys. There are many other pieces of evidence that great inaccuracy is common. Round and traditional figures frequently appear in the data. A yield of 150 eggs per hen is almost universally reported in the Deccan, although yields must vary from hen to hen even if 150 ~~is~~ were not a high average estimate. The variation included in the measure "cartload of manure" must be great, but efforts to find out roughly how much manure there is in a cartload elicited very different answers. Illustrative of the undependability of such measures was the author's efforts to relate the amount of manure used on a farm reported in cartloads with that reported in maunds (a weight of 82 lbs). Estimates of the weight per cartload varied from ten to twenty-five maunds, and even using the high estimates of 25 maunds per cartload it still turned out that manure reported used in years when the report was in maunds

was two and one half to three and one half the quantity used in years when the report was in cartloads. Further investigation on the spot showed that the manure was carried in baskets on the women's heads, not in carts, that the movement of manure to the fields took place daily, and that the manure was not weighed or otherwise measured.

Consumption data appearing in accounts of family budgets show peculiar variations. The quantity of wheat consumed per capita in one family varied from year to year from as little as three to as much as five and one half maunds. Questioning the family elicited a denial that their consumption varied by anything like that amount. The same result was found in cases where the data showed wheat consumption varying from two to almost five maunds and from two and one third to four and one half maunds. The obvious possibility that substitute grains were used in some of these years was investigated, but could not account for the differences.

It has been noted for some time that village surveys show a chronic state of deficit among cultivators. To some this state of affairs has seemed unlikely on a priori grounds. In two cases where accounts showed a chronic deficit interviews with the cultivators revealed that in one case the family was actively engaged in money-lending, and in the other that the family was not only lending money but was also increasing the size of its holding by purchases of more land. The implication was that there was something definitely wrong with the accounts.

Price data is also highly suspect. It is extremely difficult to find out how the recorded price data are collected. The usual practice is to collect "harvest prices" but it is not clear how these are collected, or what they represent: going prices in a large or small market town, prices which the merchants report paying, prices which the cultivators report receiving, prices net of transport and marketing charges, gross prices, or imputed barter prices. Beyond these difficulties one finds very unlikely prices. Recorded prices for a given place and year show barley selling for more than wheat. Such an event does not seem possible either to the writer or to those with whom he has discussed the matter. It was suggested that the seed barley price at sowing time could be higher than the food grain wheat price at harvest time, but it is hard to see the justification of using sowing prices to value barley eaten on the farm and harvest prices to value seeding costs for wheat, but these were the prices used for valuing throughout this particular return.

Again, it should be emphasized that these illustrations are not exceptions. They are illustrative of all the "micro-data" with which the writer dealt while in India. Consistent and plausible data were the exception. The above accounts were the rule, and discussions with persons involved in agricultural research from different parts of India and from different insitutions were agreed that the data which this writer was using was, if anything, better than the average.

The Reasons for Unsatisfactory Data

The shortcomings of Indian survey data are largely beyond the control of those who conduct the surveys. The causes of the shortcomings are inherent in the organization of Indian agriculture, in the knowledge of the cultivators, in their motivations, in the basic concepts of farm costs, and in the economics of village surveys.

Questions are asked of the cultivator to which he does not know the answer; sometimes because the questions are not asked in the cultivator's terminology, sometimes because the cultivator has no means of knowing the answers, sometimes because the questions are not ones to which the cultivator normally gives consideration. Thus "acres" and "guntas" are English revenue measures, not indigenous measures, while the cultivator cannot be expected to know yields by weight when there are no scales in the village. Only that part of the crop which goes to the market may be weighed, and the cultivator may not have any need to add together the weights of quantities sold on different days. The cultivator may not normally think about some of the questions in which agricultural economists are interested. General measures and classifications are used to compare, or to remember when the particular cannot be kept in mind. But if the particular is known, then there is no need for the general or the standard. To illustrate: if one knows

from long experience all the particular characteristics of, say, the "south field " -- its size and shape in comparison with other fields in which one is interested, how it yields various crops in comparison with other fields, how it drains, where it is saline, the depth of its sub-surface water, and all these things can be known in mental pictures -- then one does not need to know its area in acres or the yield in payalis of grain. The cultivator knows whether the yield of the south field in this year is better or worse than usual, and whether it usually provides all his needs of jowar and groundnut, or more, or less. Whether this field is one of six acres yielding one hundred fifty-three payalis of jowar is something that the economist wants to know, not something the cultivator needs to know.

There are other reasons why the respondents' replies are not accurate. He cannot be expected to remember over a period of time. Certainly surveys made at the end of the year or during the year following the year under investigation are too far removed from the events to allow us to expect an accurate memory. Even surveys conducted monthly during the year under investigation may suffer from the respondents' inability to remember just what was done two or three weeks before. It has even been suggested to the writer that a day or two is too long a period where memory of detail is required.

When the cultivator thinks in terms of cartloads or baskets one cannot expect more than the roughest indication of magnitudes; and there is evidence to doubt even this rough accuracy, for it appears that upon occasion these magnitudes are make-shift guesses, while the amount in any given cart or basket may vary considerably.

Respondents are not particularly interested in giving accurate answers. When there is any difficulty in answering a question it is probable that they often give any answer which will send the interviewer about his business. In the writer's experience cultivators have always been pleasant and courteous, but he cannot say that they give the impression of trying hard to make sure that their answers were correct.[1] Furthermore, both in interviews and in examining data the writer has noticed a tendency to give the "acceptable" answer. It must be remembered that the Indian cultivator has been subjected to questioning for years, particularly in proceedings for the fixing of the land revenue, and must have -- for he is a sound, sensible person -- found out what answers he can give without causing further bother. In addition, the traditions, both of social hierarchy and administration, require the cultivator to behave in a respectful and, at least apparently,

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1. An incident may illustrate: upon entering a storeroom to see the potato harvest I asked how much the yield had been. The respondent, a most courteous and generous host, replied "seventy five maunds, maybe eighty, or perhaps ninety -- say a hundred". My companion pointed out to me, using this reply as evidence, that cultivators did know and could tell you the yield of their crops!

cooperative way. Such experience and such customs do not lead to genuine, thoughtful cooperation in finding data.

Lastly, the cultivator has good reasons not to tell the truth. Even after one has "won his confidence" -- and this is more difficult than many field workers seem to believe -- the respondent may still not be inclined to give the interviewer any more information than he would give his friends and neighbors. The gap between truth and answer will be even greater if prestige is involved, or if the neighbors have definite opinions on the matter. If the respondent wants his neighbors to think he is rich, he will overstate. If he has already put abroad a particular story in the locality, he will stick to this story. The information he gives out will vary depending on whether he is trying to get a loan from the local cooperative society, or from the money lender, or is appealing for a reduction in his revenue assessment. As the father of a marriageable girl his tale may differ from his tale when he has a son to marry. Then there are "classic" cirdumstances for lying. If a tenant has agreed to pay one half his output to the landlord, his answer to the question of what his output was will obviously be twice whatever he turned over to his landlord. In so far as the cultivator appreciates the purpose of the survey it will occur to him that he stands to gain by overstating his problems and understating his receipts.

Of the elements which lead to inaccurate data only the phrasing of the questionnaires is really under the control of those who conduct the surveys, yet it must be realized that the closer the questions approach to the terms in which the cultivators think, the farther will the data be from the generalized and quantitative classifications in the which/agricultural economist is interested. In fact, the questionnaire which is easily answerable by the respondent will not provide answers to many of the questions which the surveys wish to have answered.

Do Surveys Provide Useful Data?

To this point the burden of this paper has been that Indian surveys do not, and under existing circumstances cannot be expected to, provide accurate data. All of the data examined fitted the pattern of effect and cause outlined above, and was collected by quite different persons and organizations in different regions and circumstances.

While there seems to be no reason to qualify the picture presented so far as input, output, price, and destination of product data is concerned, there is one way in which past data can be used.

Usable data has been collected on items requiring only a "count". Some of the problems arising in the general questionnaire are eliminated when the question asks only "how many bullocks do you have?" or "how many wells are there on your land?". If the survey has

been well conducted, with the answers checked against observation and common village knowledge, answers to this sort of question can be accepted, for they require only that the cultivator be able to count. Similarly, data from the records of cooperative societies and village land records can be used with some degree of confidence. There are, however, very definite limits to the confidence which can be reposed in any of these sources. As the errors uncovered in Uttar Pradesh during consolidation of holdings proceedings showed, village land records are liable to contain many errors. Before placing reliance in a set of records the investigator should establish from some external evidence or trustworthy opinion that the cooperative society is honestly and competently managed, or that the local patwari (record keeper) is honest and conscientious and that the records are kept up to date. Given confidence thus established, or in the case of village surveys the knowledge that the particular one in question was well conducted with observation checking answer,[1] it is possible to gather useful information on acreage, crop patterns, housing, and major items of capital equipment. Marked changes in cropping patterns will emerge clearly from such data.

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1. At the same institution one finds both well and poorly conducted surveys. It depends very much on the field personnel and their supervisors. Excellent administrators at the top of the surveying hierarchy cannot guarantee the performance of the lower ranks because of the sheer volume of work-supervision for which the highest level personnel are responsible and the difficulty of recruiting mature and competent field workers. I always found the higher personnel quite willing to guide me in evaluating the efficiency of the lower ranking personnel.

One cannot expect to discover small changes in the amount of capital equipment, and most definitely not changes in the value of the equipment resulting from changes in its average life or changes in replacement costs; but changes in the form of a larger number of pucca (brick) houses, of shelters provided for animals, of wells, of working bullocks or milch buffaloes, or in the form of a new piece of equipment such as a diesel pump or rubber-tired carts will show up in such data, and the investigator can safely use data about such changes in analyzing the rural economy. The rest of the data, that which is most useful to the farm business analyst or student of rural living conditions -- the data on ~~valuable~~ variable inputs, on yields, on values, on consumption -- cannot be so used.

Directions for Fruitful Research

The foreign scholar or technical expert who hopes to use Indian village survey and farm business data as an integral part of his research work is going to be disappointed. Analysis of data is pointless when the errors of observation are greater than the changes which take place or greater than the variations between groups of enterprises; yet such is the character of the data.

It would be understandable if the potential research worker were to suggest that he undertake to gather his own data if the available data is poor. The writer has tried to show how great are the obstacles inherent in present conditions and that the data problem is not essentially

one of conducting a more careful survey, but the example of the most successful village survey to date may serve to point up the effort necessary to rise above the difficulties.

Forty years ago Dr. Harold H. Mann, then the principal of the College of Agriculture at Poona, set out to analyze the agricultural economy af a village.[1] His original survey of the village of Pimple Soudagar outside Poona was repeated in the more distant village of Jategaon Budruk.[2]

There were three basic principles employed: that the schedules themselves contain logically related material so that the returns may be checked for internal consistency; that observation rather than questionnaire should be used whever possible; and that no data should be accepted until there is verification from an independent source.

Dr. Mann's survey used the usual questionnaire technique, but the vital part of the survey was the employment of senior specialists to examine each aspect of village life by direct observation and testing. The soils were analyzed; a complete enumeration of all plant life was made; every tree was mapped, as was the sub-surface ~~of~~ water table; weather and rainfall records were kept; in short, the entire physical environment was encompassed without reliance upon local lore. Beyond direct observation of the physical environment, the staff undertook

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1. See Harold H. Mann Land and Labour in a Deccan Village, op. cit.
2. See Harold H. Mann Land and Labour in a Deccan Village; Study No. 2, op. cit.

to measure or weigh all inputs and outputs themselves so that there was no dependence on the respondent's memory or willingness to tell the truth. Dr. Mann's survey quite literally took over and "laid bare" the village and its life.[1] When information was gathered by questioning the local residents the third of our principles was followed: no information was accepted until it had been verified from a second and independent source.

The contrast between Dr. Mann's survey and those conducted since is great indeed. The survey of Pimple Soudagar took over three years to complete. The field work was conducted by senior members of the staff at the College of Agriculture. The financial cost of surveying one village was large, and the cost in the time of scarce personnel would be prohibitive on a large scale. The possibility or practicability of carrying out surveys of the Pimple Soudagar sort depends upon the acceptance of a very limited coverage at appreciable expense. At present surveys are carried out over a period of one year with one or perhaps two men of senior standing supervising the operation, and these men are usually supervising the surveying of several villages and often have other equally onerous responsibilities. They simply cannot be expected to get results comparable with those of Dr. Mann and his staff. It nevertheless remains true that accurate results in survey work cannot be had unless the principles governing the Mann survey are employed in other surveys.

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1. Mr. P. D. Diskalkar of the College of Agriculture, Poona, is making a resurvey of Pimple Soudagar. He finds that it is impossible for one man working over a number of years even to approximate in more limited areas the thoroughness of Dr. Mann's survey: e.g. in recording the plant life.

It is significant to note that the newer surveys at the Agro-Economic Centers and the Farm Costing Projects are tending toward the pattern devised by Dr. Mann.

Specialized investigation by men trained in the relevant disciplines is lacking, but a field investigator is in the village at all times so that the projects are not dependent upon the information which supervisors can gather on occasional trips. These field workers are in a position to check on information and to keep their own records; to listen to gossip and to measure the variable quantities. The results of this work is not yet available, but it may prove to be superior to the work that has been carried on in the past. If all the "ifs" could be answered favorably one could say with confidence that the results of this survey work will indeed be superior. However, there remains the problem of recruiting a suitable staff, the problem of overworking the senior staff, and there is doubt among some members of the senior staffs as to whether the field workers are not responsible for more work than they can handle without relaxing the ~~rigor with which~~ rule that they visit each cultivator daily. In addition, the field worker stationed in the village relies essentially on answers supplied by the cultivators whose records he is keeping. The constant contact does eliminate the disadvantages of depending upon memory, but the barriers of knowledge, interest, understanding, and motivation are still with us.

How accurate, consistent, and therefore useful the data from these projects will prove to be this writer does not wish to predict, but does feel that before reliance is placed upon the data the analyst should examine the schedules and records most carefully to discover whether

the different questions serve as checks upon each other and whether these checks of internal consistency warrant further work with the data. When, or if, internal evidence is insufficient to support a decision one way or the other a very useful technique is to gather some data from the schedules and go to the village and to the respondents and ask around the matter until one is satisfied that the respondents original answers are consistent (or inconsistent) with the information he is willing to supply on other matters. It is also advisable to look for oneself at the fields, wells, and buildings, for here is evidence that one can count on and upon occasion what one sees will put the data in a different light.[1]

Special mention should be made of the time element. Throughout India the character of the seasons vary greatly from year to year. "Normal" seasons are so few that "normality" is merely notional. Yield variations resulting from purely seasonal factors amount to twenty per cent, and in famine tracts like the Bombay Deccan the variations can be fifty per cent not counting the famine years.[2] In consequence it is impossible to put faith in the representativeness of the yield, income, or solvency figures of any one year. Certainly at least two and really three years

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1. To illustrate, I have found a respondent recording as his well a shared well and a two-pulley well as a "double well". In another case the land was recorded as unirrigated, which it was in the sense that there were no wells or public irrigation canals, but which was nevertheless laced the stone channels and earthen bundhs (dikes) to canalize and control the flow of water from the mountain above, so that it differed in this respect significantly from the unirrigated fields in the plains or in other hilly areas.

2. As a result of the lateness and heaviness of the rains in the Deccan during the summer of 1955 the crop in the area was a "four to eight anna" crop. A sixteen anna crop is presumed normal, yet in no sense was this regarded as a disasterous season.

are necessary before one can form a judgment as to the probable normal, average, or cyclical pattern of agricultural data in a village. Thus even if the farm business data of village surveys of the past could be trusted in the narrow sense it would be very hard to interpret these figures without a knowledge of the state of affairs in the years before and after the year being analyzed. This in fact means conducting the survey over a period of three years.[1]

If this be the case for Indian scholars, the difficulties faced by foreign visitors must be much greater. Clearly the compas of field research by visiting scholars will have to be narrow.[2] The possibilities of significant research results from independent field study on any but the smallest scale are small, and if time is limited the foreign scholar will do best to limit himself to the kind of research outlined below.

For the person who wishes to make a broad study encompassing a wide area or comparing different areas or the same area at different times the question arises whether there is anything such a person can do. Within the limits described in the first and second parts of this paper there are two possible lines of endeavor. We know that past

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1. To this consideration should be added the view that in each survey the first year should be allotted to making mistakes and discovering how to run a successful survey in that village.

2. Probably the only way to conduct successful field research is the method of the anthropologists: continuous residence in the village being studied. I believe the only such research with an emphasis on economic magnitudes is that of Mrs. Scarlett Trent, of Manchester University, in one irrigated and one dry village in Mysore. The time spent residing in these two neighboring villages was two years. (The results are not yet available).

data on farm operations, consumption and living standards is undependenable, and we know that without an intensive and complex effort on a very narrow local front one of us cannot gather data which is any more (and doubtless much less) dependable, but as mentioned above there are kinds of data which we can use. One can extract from past surveys information on the cropping pattern and the number of wells.[1] He can then find out what the dropping patterns are today, and how many wells there are. This can be related in a non-rigorous fashion to the events which have transpired in the meantime, such as the advent of a community project or the construction of an all-weather road for trucks.

With such data garnered from existing surveys one can go on to make further studies in other areas in order to compare one area with another in regard to crop acreages, wells, buildings, and livestock. There exist today a large number of surveys of villages from many parts of India, and comparative treatment of a limited amount of "count" and land record data from these surveys might prove interesting and significant. However, it is difficult to find villages which have been surveyed after a period of time, so that inter-temporal comparisons cannot be made without undertaking further survey work.[2] While there is merited hope for the success of work along these lines, it is clear

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1. The number of wells is an important indicator of capital development. Outside of areas services by the government canal system -- most of India is outside this area -- wells mean the difference between frequent crop failure(or partial failure) and a moderate degree of success in farming. Wells are also the biggest -- most expensive -- item of capital improvement.

2. At the Gokhale Institute there are only two surveys with a span of years between. At Delhi School there are none. I have found one in the literature on Uttar Pradesh, none in the literature on the Punjab. There are Professor Thomas' resurveys (op. cit). of the Madras Villages surveyed by Professor Slater (op. cit.). A resurvey

continued on page 38

that conclusions derived from the work will not increase our knowledge of living standards or farm operations or debt structure or savings except as such knowledge is implied in the changing crop patterns and numbers of major items of capital equipment and numbers of livestock.

The other possible line of endeavor is the study of the structure of specific markets, of the structures of the various rural labor systems, and of the breeding and disposition of livestock. Such studies would have to be descriptive and explanatory rather than quantitative. The questions to be raised would be: who brings the goods to the market, by what negotiating process are prices arrived at, what is the capacity of the market to absorb goods,[1] how and why did the market grow up where it did, how are payments made after the sale, who employs labor, how is payment made for labor, how are the terms negotiated, does anyone

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Footnote 2 continued from page 37.

after many years is now being made of a village in Gujerat, and above I have referred to Mr. Diskalkar's resurvey of Pimple Soudagar. The Indian Central Jute Committee has surveyed a large number of Benjal jute farmers on a continuous basis in regard to their jute growing activities, and a report on this work may be expected from the M.I.T. Center for International Studies. Since it is unlikely that there are repeated surveys for the former princely states, the number of resurveys for the rest of former British India must be small. The Agro-Economic Centers will be resurveying the villages they are now surveying after a lapse of five years, but until that time comparisons over time will depend upon additional survey work by the visiting investigator.

1. This is an important problem, for upon its solution depends a solution to the question of what significance we can attach to reported prices. To illustrate: one can often find a current or market price for a commodity, but what importance or general validity can we attribute to that price if only two or thre per cent of current production of that commodity comes to the market? Can we say that all others are either satisfied non-buyers or satisfied withholders at their reservation price, or are they persons who never considered the choice? It is always possible to state the case in terms of choice, but what reality can be attached to such a statement? If five per cent of the fodder in an area is sold, is that the proper costing or welfare price to use for all fodder in the area? It appears likely that many Indian local markets would break down if faced with the need to handle a major portion of the output of the locality which it serves.

in the area breed bullocks or milch cattle for sale, who offers livestock for sale? With the exception of volume I of the Rural Labour Inquiry Report dealing with the labor questions there are no answers to any of these questions. With all the variety that there is in India one would expect that the answers to these questions will be quite different for different markets. The procedure involved would be the informal interview with as many people on both sides of the transactions as one could find: merchants, cultivators, truckers, money-lenders, coolies. The closer one approached to asking about the details of profit and loss, yield and costs, the more one would find the information becoming inconsistent, inaccurate, and even unlikely, but if the effort were restricted to finding out, by questioning, gossipping, and observing, the structural form of the markets the results would tell us a lot about the institutional structure within which farm business is carried on, and from this knowledge far better guesses could be made about actual farm operations, cultivators' motivations, and the changes that do, or can be made to, occur.

The two lines of endeavor here described can of course be combined. Thus one can gather bench mark data on the crops grown in an area at the time the survey was made, gather the same information for the present time, and then try to account for changes in terms of the structure of the surrounding economic environment of markets, transport facilities, and urban development. Cases can easily be found where an area has shifted from grain to vegetable production, or from grain to milk production when towns have grown nearby or when new means of reaching the town have been introduced (the cycle as well as the road). The process of

change can be traced by gathering information on the structure of the urban market, the structure of the transport industry, and throughout that difficult range of information gathering encompassed in the questions of who first changed, and why he changed from one form of production to another, where the stimulus came from, how it was recognized as a stimulus, and how the change was financed. Such an effort would tell us more about the rural economy than we can possibly derive from the village survey data presently in existence.

Summary

The data of village and farm business surveys in India is too inaccurate to be of use in the analysis of the rural economy or the changes therein. This unsatisfactory nature of the data stems from the difference in outlook and interests of the cultivator and the investigator, the problem of memory, the problem of indifference in a context of hierarchical loyalities and conflicts, and the problem of motivation toward accurate replies on the part of the respondent when he has many reasons to mislead in many directions and few, if any, reasons to be conscientiously helpful. Some data, that which can be gathered by counting or by limited observation, is usable, but the gathering of quantitative data on farm operations will require a great effort over an extended period of time on a village at a time. Otherwise, the foreign scholar or visiting expert

must restrict himself to employing the small amount of the benchmark data as a base from which to work in constructing a description of the structure of aspects of the rural economy without hope of being able to employ quantitative methods on any but the most limited scale.

A Note on Sources

This paper is based on the experience of a year of work with village and farm business surveys in India for The India Project of Center for International Studies at Massachusetts Institute of Technology and on widespread discussion of the problems arising with academic people, field workers, government and Reserve Bank people, extension workers, and others with a large acquaintance with the country. Particularly deep debts of gratitude are owed to Professors Gadgil, Sovani and Dandekar and the staff of the Gokhale Institute, Poona; to Professor Driver of the Agricultural College, Poona; to Messrs. Gurdet Singh, Randhawa, Athiwal, and the staff of the Board of Economic Inquiry, Ludhiana, Punjab; to Professor Dantwala and members of the staff of the Bombay School of Social Science; to Messrs. Daniel Thorner, Maurice Zinkin, and Evelyn Wood of Bombay; to Mr. Mukerjee of the Agro-Economic Center in Delhi; to many persons in the government departments of U. P., Punjab, and the Government of India, and in the Reserve Bank of India; and to many courteous hosts and guides in the states of Bombay, U. P., and Punjab. The analysis and conclusions of this paper derive from the data which was made available by these people and from formal interviews and informal conversations with them. However, the evaluation of ~~farm costing research~~ village survey methods presented in this paper does not reflect a common ~~evaluation~~ appraisal among these people.

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HOW DID THE ENGLISH GET THAT MONEY?
or
A NOTE ON NUMBERS SYSTEMS AMONG LANGUAGES AND ECONOMIC QUANTIFICATION

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To one from outside the discipline of linguistics it appears that perhaps some light can be thrown on the problem of the marked differences in systems of counting between various languages by some findings of economic historians. It has been noted by linguists that some languages provide counting numbers up to large quantities while others appear to have a remarkably limited range of numbers, and that there is an association between many-number counting systems and the herding of animals. This note suggests some explanations of why some non-pastoral peoples have not developed such systems.

The need for many-numbers to count and compare large herds clearly stems from the composition of a herd. Each beast is a separate entity, and certainly among the cattle-peoples of Africa it is the number of beasts which gives prestige. But leaving aside the matter of social values--and the temporal and logical priority to be accorded to prestige rankings and number systems--the obvious way to account for a herd is by enumeration. It answers the questions "Are they all there?" and "Are there more (or fewer) than before?"

A hunting, and more especially a farming society not only does not need to count but actually needs a different set of ideas and devices. The problem for such peoples is distribution, and the needed idea is division, or a method of accomplishing the results of division without going through the mental processes of short or long division. In more complex or sophisticated societies there may also be a need to equate different kinds of things, and although we today typically make such equations in money values there are other ways of achieving the required result.

In the first place, the staple produce of a farming society is generally fungible, and for practical purposes virtually infinitely divisible. A single grain of wheat or rice or sorghum, to say nothing of a speck of flour, is too small to be of interest to a farmer or a cook. On the other hand, to count each grain produced on a three or four acre plot is certainly beyond the capacity of the farmer, undoubtedly beyond the limits of his patience, and it is difficult to think of why he would want to count them. What he does need to do is share his produce with his relatives, chief, king, clients, servants, priests, and temple. To do so he must have a means of dividing the crop according to

established (acceptable) rules.

Our method would be to measure (not count) the crop by weighing it, and to share it out by specific weights or by dividing counting number shares into the total weight and sharing out the specific dividend weights (except, of course, that we ourselves use previously contracted money sums, or immediately value crop-shares in money prices per weight-unit). But such a procedure is unnecessary and in the absence of scales and a standardized system of weights unduly cumbersome. An alternative is to use an operational device to reach the same result. One such common operational device is to laddle out shares in ratios--one for the chief, one for the temple, two for the servant, four for the farmer, one for the chief, and so on until the pile of harvested grain has disappeared into one or another of the sharers' piles. The size of the scoop is immaterial so long as its capacity is small relative to the total amount of grain. No one need ever know what total weight of grain there was, for the process itself achieves the division with the assurance that each participant has received his share. In this hypothetical example there is no need to count above four to handle any quantity of grain.

This operational device is not hypothetical. Rather it was, until late in the 19th century, a common way of dividing the harvest in the villages of India. Early British administrators noted variants of the system all over India and even today it is used in sharecropping and paying farm labor.[1] The following account, drawn from the Report of a British officier in the 1870's,[2] illustrates how the entire crop of a village can be shared in a most complex manner without using a number higher than forty,[3] but in principle the method does not require a number so large.

In the district of Gonda (northern United Provinces of British India) W. C. Bennett describes the division of the harvest among the claimants in the villages as taking place in three stages. Before the crop was cut some of the village servants harvested a twentieth of a bigha of the land of each cultivator. The total amount of land farmed by the cultivator was irrelevant, and the size of the bigha varied from locality to locality.[4] But the measurement of a land area or of the quantity of produce had no place in the major divisions of the crop. After harvesting, in the second stage, the plowman took a fifth to a seventh plus a panseri (a measure of a twenty-second of a maund now of 82 lbs.; but again, each locality used its own container whose capacity varied but provided the local panseri). Others took such shares as a sixteenth or one in thirty, or twelve or six panseris. The grain was then divided in two equal heaps, one for the cultivator and one for the ruling raja, and from the raja's heap a 'seer in every maund' (a fortieth) was returned to the cultivator while village servants received small additions of a panseri or a 'double handful'. Then the headman took a tenth from the raja, and finally there were a few more handouts.

To take as an example of the absence of the need to count, the culture which invented the zero and a good deal of astronomical mathematics may seem inappropriate, but the point here is not whether in fact the most edu-

cated in a civilization were mathmatically sophisticated, but how a cultivating community could account for distribution of its product with so little counting and without measuring the product. One could, of course, compute the shares as proportions of gross produce: for instance from the basic operations and Bennett's enumeration of the sharing village servants we can derive the raja's share as:

$$\frac{G - \left[\frac{G}{5} - p + \frac{(r)(t)}{16} + \frac{(c)(t)}{30} + 60(p)(B'') + 30(p)(B')\right] - \left[\frac{X}{40} + s + h - \frac{Y}{10}\right]}{2}$$

where G = gross produce
p = panseri
r = rice crop
c = other crops
t = number of helpers in cutting crop
B'' = number of four-bullock plows owned by cultivator
B' = number of two-bullock plows owned by cultivator
s = seer
h = double handful
X = all terms prior to X/40 term
Y = all terms prior to Y/10 term.

By substitution we find the Raja's share to be:

$$\frac{351G}{1000} - \frac{351p}{800} - \frac{351(r)(t)}{12,800} - \frac{351(c)(t)}{24,000} - \frac{1053(p)(B'')}{40} - \frac{1053(p)(B')}{80} - \frac{9s}{10} - \frac{9h}{10},$$

although it must be understood that the magnitude of the term containing (c) is understated since the proportion as reported by Bennett was the '<u>fattest sheaf in thirty</u>' (italics mine).

Clearly the cultivator and raja did not make these computations and apply the resulting ratio to a measured gross crop. In any case, we know the gross crop was not measured (by volume or by weight) in the process of the division. Rather, the extremely complex result was achieved quite easily by what we are calling operational devices, with the exception of the multiplication of 'plows' times six or twelve panseris. The measurements--panseris, seers, handfuls--could be measures in any local container: a standardized system of weights was unnecessary. The division did require counting to forty, but there would be no need to count so high in an almost equally sophisticated division of the crop. If shares were more equal, if the number of servants receiving shares were fewer, a limited number of counting numbers would suffice; and a limited number could suffice for complex divisions since the system of dividing and redividing to pass back to the original pile could provide minute adjustments without counting above, say, three or five.

If the use of operational devices not merely substitutes for measurement and counting in an agricultural community but in fact simplifies

accounting for that community, it follows that counting and measurement must be even less necessary in a hunting or food gathering community where the prey is divided 'a haunch for you, a leg for him, and a hunk for her'; or divided by passing out the roots 'one for you, one for you, and one for you'.

The evidence for the use of devices for handling accounts other than our arithmetic counts and subtractions is not limited to the Indian village. It is likely that complex arithmetic computations were unnecessary in the accounts of the cities and temples of the ancient near east. Here the technique was to employ the idea of equivalence: so much of this item (barley) was treated as the equivalent of so much of other items (silver, oil) without, it appears, any primary position of money valuation attached to any of the items.[5] The 'so much' was a volume or weight, but once one had standard containers no further counting was needed--one barley container full of barley was treated for accounting purposes as if ti were the same as an oil container full of oil. Given the container (or weight on a simple scales) the only number needed is the number one: one for one. The use of simple ratios is established for Mycenaean Greece, where Ventris and Chadwick found the ratios 7:7:2:3:1 1/2:150 consistently used in the accounts of materials for the palace workshops. In these 'simplified' accounts the first (7), the (3), and the (150) are measured in whole numbers while the second (7), the (2), and the (1 1/2) are in units of weight.[6]

The number system of Linear B, like the English money system, does not use fractions, but rather successively smaller measures. Bennett suggested that this system of number notation might derive from a technique of filling the large container first, then a smaller one when the residue was insufficient to fill the large one, and so on.[7] This technique is also an 'operational device' and the frequent occurance of numerical systems which are computationally combersome (English money, weights, measures of volume, measures of area, measures of distance, but so many more around) add some weight to the argument that societies which have to account for fungible commodities develop number systems corresponding to the devices they use in manipulating the commodities.

Although examples from economic history are drawn from societies with high counting numbers--probably only because history starts with writing and hence involves a high degree of intellectual development--the devices employed show that societies largely dependent upon the produce of arable fields did not need high numbers. The greatest economic problem for such a society, given some division of labor (as always happens), is the dividing of the crop. In its simplest form division requires only a hand or a scoop and the idea of 'one for you, and one for him, and one for me'. If, as in India, there are larger numbers available, one can divide 'one for you and thirty-nine for me', but even complex fractional divisions can be achieved without complex fractional numbers (derived from counting numbers) by the use of simple operational divisions of varying sorts in varying sequence. Certainly no peasant (or Raja) in Bennett's Indian village was aware that one

term of the output-disposal equation for the Raja's share involved the fraction 351/800.

The line of reasoning presented here, based upon some indications from systems of accounts and distribution now becoming familiar to economic historians, does not of course answer the question of whether in histroical fact the absence of a many-numbers counting system in some languages is a consequence of the techniques of livelihood. Such a proposition, like the proposition that high-numbers number systems are associated with herding, can never be 'proved' but at most given a plausibility by the discovery of high correlations, or at least plausible relationships, between arable farming, hunting, and food gathering and few-numbers counting systems. This note has been designed to point out that such a correlation is possible both on a priori rational grounds, arguing from the farming communities' need for devices which will secure easily the division of fungible produce of a sort not easily conceived of as suitable for counting, and on the grounds that we do have evidence that non-counting devices have been used by such societies for the handling of their greatest problem in economic management. Further substantiating or disproving evidence must come from linguists acquainted with a variety of languages of arable peoples, and by recourse to anthropological literature on the methods used for the acquisition and distribution of produce among these peoples.

NOTES

1. Dr. Daniel Thorner of the Sorbonne told me of watching labor paid at the harvest by filling a hollowed piece of log several times--in 1955.

2. Bennett, W. C., The Final Settlement Report on the Gonda District, Allahabad, N.-W.P. and Oudh Government Press, 1878; pp. 45-49.

3. The procedure is explained in detail and related to problems of taxation in my Sequel to Some Notable Discussions, Ch. 11 in Polanyi, Karl, Conrad M. Arensberg, and Harry W. Pearson (editors), Trade and Market in the Early Empires, Glencoe, Free Press, 1957; pp. 218-38.

4. There were Bengali bighas, standard bighas, and others of definite size, but these were by no means necessarily used in each village in a region. Between regions even the standard varied from a quarter to two thirds of an acre.

5. Frankfort, Henri, The Birth of Civilization in the Ancient Near East, Garden City (N.Y.), Doubleday, 1956, pp. 72-73; Polanyi, Karl, Marketless trading in Hammurabi's Time, Ch. 2 in Polanyi, Arensberg, and Pearson, op. cit., pp. 12-26; Oppenheim, A. L., A Bird's Eye View of

Mesopotamian Economic History, Ch. 3 in Ibid., pp. 27-37.

6. Ventris, Michael, and John Chadwick, Documents in Mycenaean Greek, Cambridge, Cambridge University Press, 1959; pp. 289-91.

7. Bennett, E. L. Jr., Fractional Quantities in Minoan Bookkeeping, American Journal of Archaeology, 54:204-22; Ventris and Chadwick, op. cit., pp. 53-55.

"Neale's Heap"

The Village Grain Heap

by Walter C. & Barbara S. Neale

The grain was heaped all around on the floor
While ryots and artisans stood by the door.
Then each by his custom and not by his fancery
Took out from the pile a few maunds and some panseri.

They each took a share
From the greatest to least:
The cappenter, blacksmith, the barber and priest.

The ploughman all weathered and starved to the bone
Needed more than his share so he asked for a loan.
The headman enjoyed quite a plentiful rent
So he offerred some food at a hundred per cent.

They each took a share
From the greatest to least:
The watchman, the washerman, herdsman and priest.

The Raja in palaces splendid to see
Took half of the output for his granery.
Through the length and the breadth of the Kingdom of Oudh
The cries of the peasants were bitter and loud.

They each took a share
From the greatest to least:
The Zemindar, Talukdar, ryot, and priest.

The custom of caste and the law of the tribe
Allotted two handfuls to Brahmin and scribe,
But the genius of Manu and many years' trial
Left all anaccounted three grains from that pile.

They each took a share
From the greatest to least:
The carpenter, blacksmith, the barber and priest.

[Walter Neale: paper]

Walter

The Case of the New Countries

The part I venture to take in this co-operative enterprise deals with comparative economic history. I shall recall briefly Veblen's great contribution in this field, shall describe it as giving a lead that has been little followed by economists or economic historians, and then shall attempt to follow for a short distance one particular lead that concerns the comparative history of new countries.

The major and most obvious contribution of Veblen to comparative economic history is of course to be found in Imperial Germany and the Industrial Revolution and in the companion essay on "The Opportunity of Japan."(1) These works deal with the contrast between the economic histories of a nation, Great Britain, which developed the technology of industrialism slowly and to a large degree independently, and of nations which borrowed that technology and adopted it with great rapidity, as in the cases of Imperial Germany and Imperial Japan. In the book, a part of the argument moves on a strictly technological level. The borrowing area has the advantage of being able to take over the new technique at its developed best. It can buy or build machines of the newest model and put them to work in factories of up-to-date design within a network of transportation constructed to meet their needs. On the other hand, much of the industry of the first area is still carried on with older machinery which it cannot yet afford to scrap and with buildings and transport originally designed for an earlier stage of the technology. One of Veblen's familiar illustrations was "the silly little bobtailed carriages used in the British goods traffic."(2)

It may perhaps be said that this point more than others in Veblen's comparison has come into the common parlance and common thought of economists.

Illustrations are frequently given of the penalty of taking the lead in technological innovation. A case I have had occasion to examine is that of the state works of Pennsylvania, which scored the engineering triumph of the first railroad crossing of the Appalachian Mountains and paid the penalty of its complete obsolescence in less than twenty-five years. Students of the movement of the textile and other industries from New England to the South have often pointed, as one explanation, to the advantage of starting afresh in plants designed for the newest machinery. Another set of applications of the doctrine may be worth examining in these days when we seem to be as anxious to promote the welfare of the non-industrial peoples by hastening their economic development as Veblen himself was to promote their welfare by protecting them from too rapid development.(3) In current discussion the possibility of borrowing modern technology at its peak is commonly taken for granted as a great advantage for the developing countries, and might indeed be spectacularly illustrated if it should prove that some of them were able to apply atomic energy to industrial uses more rapidly than the developed countries. Yet the same discussions have brought out two limitations in the application of the doctrine of borrower's advantage. In some cases, though by no means in all,(4) the newest techniques of the advanced countries, designed to meet situations in which capital is abundant and labor scarce, may where the opposite conditions prevail be less applicable than some earlier form of the machine technique. In the second place, much of current discussion deals with the necessity of institutional changes in the less industrial countries--in habits of labor discipline, enterprise, and administration--before technology can be effectively borrowed. It would hardly be a distortion to say that much discussion of economic development and technical assistance today turns on methods of stimulating changes in habits of thought sufficient to bring the

less developed countries to a degree of receptivity to new technology similar to that exhibited by Imperial Germany and Imperial Japan.

Veblen's emphasis, however, was on a precisely opposite point. What struck him was how little these countries had had to change their basic habits of thought to make effective use of the borrowed techniques. Germany and to an even greater extent Japan had taken over the machine technology without at the same time absorbing the complex of changed usages, habits and manners of thought that had developed in Great Britain during the long process of industrial development. They were thus able, as he says of Japan, "anachronistically to combine the use of modern technical ways and means with the medieval spirit of servile solidarity." In England, on the other hand, the changes in industry had taken place slowly enough to work out their effect "upon the habits of thought of the community, and so to bring about a state of the institutional conventions answering to the altered state of the industrial arts." What, then, were these institutional arrangements and habits of thought which, in Veblen's view, "answered" to the machine technology? In part, they were those which he summed up in a single sentence as "self-help" and "mechanistic logic." Through the years of handicraft and petty trade and early machine industry, the industrial population had developed habits of independence and of self-assertion against the older aristocracies; and the "matter-of-fact" attitude induced by habituation to the machine process was hostile to the type of personal loyalties represented by fealty to Prussian imperialism or by "the Spirit of Old Japan." On the other hand, the later stages of machine development had been typically -- the article on Japan seems almost to say necessarily -- controlled by large-scale business enterprise acting under pecuniary motivation. In Veblen's view such control is in conflict with the logic of a mechanistic technology -- a conflict which is indeed a central theme of

the general Veblenian body of thought. But this distinction is in part beside the point[5] in the discussion of the unique "Opportunity" of the imperial regimes to embark on dynastic enterprise while they could make use of the material power obtained from their newly-borrowed technologies and before their control was weakened by the growth either of democratic or of pecuniary habits of thought.

Here, then, is comparative economic history based on institutional comparisons much broader than those on the purely technological level. Its example has been little followed, in part by reason of its sheer boldness and complexity. Again further application is at least tempting. Much of the argument can surely be applied to the case of Hitler Germany. Indeed from this distance in time it would almost be possible to forget which of the German regimes was the subject of his essay. Joseph Dorfman made the application in 1939 in the following terms: "So well had Veblen caught the spirit of the Third Reich twenty years before its birth that its accredited spokesmen sound as if they were merely obeying Veblen's logic not only in broad outline but in specific detail."[6] Of greater current interest is the question of the applicability of the thesis to the New Imperialism of Soviet Russia. In this case the origins and basis of loyalty to the regime are different from those of the cases Veblen studied, and its doctrines are stated at least formally in terms of mechanistic logic. Yet in one sufficiently frightening aspect, the Russian case conforms to the Veblenian description. It too presents an authoritarian regime wielding the newly-borrowed and newly-minted power of the most modern technology and operating without the checks that might be imposed by a population habituated by long experience to the practice of democratic insubordination.

The cases cited do not by any means exhaust Veblen's use of the device of the comparison of different economic orders in the development and

presentation of his theories. A conspicuous part of his system is the ubiquitous use of the peaceful pagan economy of the early Baltic people, and the occasional parallel use of pacific China, as bench-marks against which to measure and compare the characteristics of later economic orders. Perhaps these may be thought of as Veblen's variations on the mono naturaliter christiana of certain older writers on religious history. Whatever their purpose and validity, they are essentially devices of static comparison and hardly fall within the definition of comparative economic history in the sense of the study of varying cases of cumulative economic change.

The comparisons I wish to explore are somewhat more modest in scope. They relate to the history of the so-called "new countries" that arose in the period of European expansion. Veblen's reference to them forms a brief passage at the beginning of the chapter on "The Case of America" in Absentee Ownership. The differences to which he calls attention are two. The first, which he says is "not wide," is between the United States, considered as "the oldest and maturest of the colonies founded by the English-speaking peoples," and their "later enterprizes in colonization," presumably Australia and New Zealand. The United States, he argues, took its "point of departure from the European situation" in the period in which "the principles of self-help, free contract, and net gain achieved their ascendancy" and at a time when "the system of Natural Liberty was still 'obvious and simple.'" For Australia and New Zealand, on the other hand, he says that "their institutional point of departure ((was)) blurred" by certain holdovers from "the return wave of reaction in Europe, as well as by those later-come stirrings of radical dissent that have questioned the eternal fitness of the system of Natural Liberty itself."

The second and wider difference is that between the English-speaking peoples and "those other, South-European or 'Latin,' peoples who have had a

share in the colonization of the new continents." When these peoples "were taking the lead in the winning of the New World, ((they)) were still living very busily in a more archaic and barbarian phase of the European culture, which belongs at a point in the sequence antedating the natural rights that make democracy." Thus, says Veblen, Spanish colonization "and in a degree the Portuguese, was an enterprise in pillage, inflamed and inflated by religious fanaticism and martial vanity." All this, he says, "has worked out in the creation of a class of colonial nations which have hitherto scarcely proved fit to survive under this newer order of things that has been imposed by the mechanical industry and the business enterprise which makes use of the mechanical industry." On the other hand the new nations of British origin, in which the initial and "enduring preoccupation of the people has been the exploitation of natural resources for private gain," have been much more receptive or as he says "addicted" to "democratic institutions, the mechanical industries, and business enterprise."(7)

If we pass over the harshness of the language -- and some of it can be put later on into softer Spanish -- these quotations may be taken as stating the questions, though by no means all the answers, for a venture in comparative economic history.

In comparing the United States with Australia and New Zealand, the contrast to be explained is in the degree to which economic individualism has been checked and modified by collective and state action. Australia put into power the world's first labor government, and in both Australia and New Zealand labor parties have for decades shared political power almost equally with their combined oppositions. Australia had the largest proportion of organized wage-earners in the world at a time when trade unionism in the United States was a matter of a small minority. The labor movements of both the other countries have long professed the doctrines of socialism, while our

own remains almost the only anti-socialist labor movement that can be found. New Zealand in the eighteen-nineties led the world in labor and social legislation, and was followed more closely in Australia than in the United States. Government subsidy of developmental transportation took the form in both of the other countries of government ownership and operation of the railways while in our case it took more often the form of government aid to private companies. We in the United States have been in the habit of thinking that the conditions of new and frontier countries favor economic individualism, and it is therefore somewhat of a surprise to find that these still newer countries developed at so early a stage so much of a socialist and interventionist tradition.

The contrast to which Veblen pointed is a real one, and the explanation that he suggests is one for which much support can be found. Doubts of the system of Natural Liberty were characteristically expressed in the first issue of the People's Advocate, which appeared in Sydney in 1848. "In truth," said the editors, "we are sick of the everlasting babblement of the men who swear by Adam Smith." The explanation of the strength of the labor movement in terms of the importation of radical ideas is particularly favored by Australian writers. They like to point out that the six Dorchester labourers, transported for trade unionism, and a number of Chartists were among the convicts sent to Australia, and that the Gold Rush of 1851, which brought to the country its first great accession of immigrants, attracted footloose rebels from the defeats of English Chartism and the continental revolutions of 1848. It may to be sure be objected that the unfortunate farm laborers from Dorsetshire spent only a short time in the penal colony, that no form of human activity could be less socialistic than participation in a gold rush, and that the United States also received thousands of Chartist immigrants and many more German forty-eighters than ever reached the South Pacific.

Yet there is abundant evidence of a continuing close relationship between the labor movements of Australia and New Zealand and that of the mother country, as illustrated by the formation on shipboard of an Australian branch of the Amalgamated Society of Engineers, by shipboard discussions that gave rise to the Eight-Hour Movement in New Zealand and still later by the large contribution raised by Australian trade unions for the support of the London Dock Strike of 1889. In any case, the fact remains that immigrants to the United States in the nineteenth century came to a land whose habits of thought were already firmly established in an earlier individualistic tradition, while the counter-movements of trade unionism and labor legislation and the early stirrings of modern socialism had already begun to be felt at the time when migrants were exercising a formative influence on the institutions of Australia and of still newer New Zealand.

Before giving full acceptance, however, to this emphasis on differences in the importation and diffusion of ideas, I should like to urge consideration of another line of possible explanation based on differences in occupational distribution and geographic opportunities. It runs less in terms of the ideas the Diggers brought with them than in terms of what they found to do when the gold ran out. What they did not find to do, in any numbers either in Australia or in early New Zealand, was to take up land as small farmers. Instead they found the land "locked up," as the phrase went, in large sheep ranches. To their political leaders, as well as to a number of later writers, the explanation of the contrast with American "free land" seemed to lie in the field of political policy. For this there was certainly some color in early legislation. Yet nearly a century of legislative efforts to plant a "sturdy yeomanry" on the Australian land -- in some cases by means much more drastic than our own Homestead Act -- have effected so small an increase in the number of Australian small farmers as to suggest that the real difference

lay elsewhere. In America a sturdy yeomanry could not be kept off the land. The greater difference lay not in legislation but in the fact that so much of America's well-watered frontier was hospitable to the family farmer growing wheat and corn while Australia's great stretches of drier land were better adapted to the large-scale operation of wool-raising.

The consequences for the distribution of population were obvious. Since sheep-raising required so little man-power, people were early concentrated in the cities, and in the Australian case to an extraordinary extent in the two major ones. In 1890-91 more than a quarter of the entire population lived in Sydney and Melbourne. By contrast, only fifteen per cent of Americans lived in cities of more than 100,000 inhabitants. The differences in occupational distribution ran in the same direction. Though the small industrial undertakings in the newer countries were by no means comparable to the great manufacturing establishments of the United States, the proportion of the gainfully occupied that could be classified as in industrial pursuits was nevertheless higher. It stood at 31% in Australia and 29 % in New Zealand, as against only 23% in the United States. Mining employed 5 or 6% in Australia and 7% in New Zealand, as against only 2% in the United States. Conversely, the proportion engaged in "country" pursuits, primarily agriculture and grazing, was 36% in the United States, but less than 30% in New Zealand and 25% in Australia.(8) The United States of Rockefeller and ~~U.S.~~ Carnegie ~~Steel~~ and the Sherman Anti-Trust Act was in these terms the most rural of the three. Australia and New Zealand, for all their newness and the modest scale of their enterprises, were in this sense more industrial. Even on the land, moreover, the characteristic occupational division was that of employers and employees, as illustrated by the great importance of the Shearers' Union in the early days of the Australian and New Zealand labor movements. The effect was to give these two countries a notably smaller proportion of self-employed persons than the United States and a correspondingly greater predominance of

employees. These factors might, therefore, appear to be a significant part of the explanation for their early and extensive resort to trade union and governmental action on behalf of the wage-earners.

This explanation receives at least a partial and suggestive confirmation in what has happened since 1890 in two of the countries concerned. In the case of New Zealand, the invention of refrigeration made it possible to sell butter in the London market twelve thousand miles away. This released the potentialities of areas, particularly in the North Island, that enjoyed abundant rainfall and extraordinary natural advantages for dairy industry. These opportunities could be and were seized by small farmers, who obtained the land with the aid of favoring governmental measures. New Zealand became more rural at a time when the United States was rapidly becoming more urban and more industrial. As the farmers rose to a position of dominance in New Zealand economy, the political consequence, as John B. Condliffe has pointed out, was a cessation of the flow of new social and labor legislation and the return, at least for a considerable period, to a more conservative economic policy.(9) A nation of small farmers was less inclined to advance a wage-earners' collectivism.

The other and more familiar change is that which has occurred in our own country. With the passing of the frontier, growing urbanization, and the rise of the great industry and big business, we too have become a "nation of employees." As a result of these underlying factors, and with the shock of the Great Depression reflected in the New Deal's legislative innovations, we have experienced what is by comparison with our own past an enormous increase in collective action and in governmental responsibility for the economy. Of this the adoption of a comprehensive system of social security and the growth of trade unionism in numbers and recognition are particularly relevant to the comparison with Australia and New Zealand. On these two points, the differences between them and the United States is even less wide

than it was when Veblen described it, though there remains today -- I believe -- a significant difference in the extent to which the leadership of big business in economic life is confidently asserted and confidently accepted.(10)

The second comparison with which we are concerned is that between the Latin-origin and the British-origin new countries. Here what needs to be explained, at least if we disregard the political overtones of Veblen's statement, is the difference in economic levels and the fact that Latin America has not attained the extraordinarily high standards of living enjoyed by the new countries of British origin. Veblen's explanation of this, like mostothers that have been advanced, runs in terms of the contrast between the more industrial and businesslike heritage of the British as against the more medieval and military heritage of the Spanish and the Portuguese. In one case the ties lay with the part of Europe in which the combination of mechanical techniques and business enterprise was most in the ascendant, and in the other case with one of the parts of Europe in which these tendencies made only partial and belated progress. In the latter case, moreover, the settlements were launched a century before those of the United States and two centuries before Australia's, at a time -- 1500 -- at which the economic transformation had not gone very far even in the technologically more advanced countries.(11) A Spanish-language writer, the Venezuelan historian Mariano Picón-Salas, explains the contrast in the following terms:

There is then in our origins, and in contrast with that other pragmatic and utilitarian current which was already beginning to form in the north of Europe and which was to reach its height in the industrialism and the mechanical civilization of the nineteenth century, a certain scorn of economic matters and an economic inferiority which would hold us back in the great technical and utilitarian adventure of the modern world. Perhaps the proud and at times conceited sense of his own manliness made the Spaniard so much the rebel against the mechanical. Even today the Spanish peoples have not

become fully acquainted with the usages of the capitalist economy.(12)

Picón-Salas's animus is very different from Veblen's, but I am sure that the latter would have accepted the antithesis between merchant-body and warrior-soul as expressing the contrast he had in mind.

Yet even this generally-accepted and persuasive line of explanation will not cover all the facts without at least some recourse to more prosaic differences in geographic and demographic conditions. If the conquistadores in High Peru looked for gold, so did the first settlers of Virginia. The former found it; the latter did not; and it would be interesting to speculate on what the history of the Thirteen Colonies might have been if the Appalachian Mountains had contained the silver of Potosí or Mexico.

Moreover, the contrast between utilitarian and medieval traditions will not explain the differences between different parts of the areas colonized by the two sets of peoples. Picón-Salas brings into the discussion a different type of British new country, Jamaica. After comparing it unfavorably with Spanish Cuba and Puerto Rico, he makes the following generalization:

If the British were good colonizers when, as in North America, in the South of Australia and in New Zealand, they found lands of temperate climate where it seemed easy to carry over the customs and manners of life of the mother country, they did not display equal cultural strength in the tropics.(13)

To this statement one other contrast should be added. The United States, Australia and New Zealand were all founded in largely empty lands, in which the native inhabitants could be easily pushed aside; and the bulk of the population, for manual labor as well as for the directive roles, came from European settlement. In British Jamaica, on the other hand, as in Spanish Mexico and Peru or in Portuguese Brazil, the European new-comers came in only at the top, as conquerors, rulers, priests, proprietors and the like, while the bulk of the manual labor was performed either by the native Indian population or, as in our South, by imported Negro slaves. The conventional terms describing these two types of organiza-

tion are settlement and exploitation colonies. A recent author, considering the fate of the natives in the former cases, has suggested that they might be described as "extermination" colonies.(14) It is a term which Veblen would have enjoyed adding to his vocabulary.

Adam Smith, as you will recall, declared that "The colony of a civilised nation which takes possession, either of a waste country, or of one so thinly inhabited, that the natives easily give place to the new settlers, advances more rapidly to wealth and greatness than any other human society."(15) May not this, therefore, explain the differences in wealth between the three new nations of settlement origin and the nations of Latin America without the necessity of resort to mystiques of English bodies and Spanish souls? A partial test is provided within Latin America itself. Not all parts of it were established as exploitation colonies. Most of the southern part of South America, and smaller areas elsewhere, are regions of recent European settlement in what were almost empty lands. The Mexican historian Silvio Zavala has pointed out that there are more likenesses between the United States and distant Argentina than between the United States and nearby Mexico, and Charles H. Haring declares that "when the Spaniards settled in regions analagous to those of the English mainland communities, the type of colonization, in spite of great differences of political organizations, approximated more nearly that found in the latter."(16)

What, then, can be said of the economic attainment of Spanish regions of settlement origin? Is it like that of the English-speaking settlement countries or like that of the Spanish-speaking countries of exploitation origin? One set of attempted comparisons, Colin's Clark figures for a period before the Second World War, placed the per capita income figures of Argentina and Uruguay very close -- I should say surprisingly close -- to those of the new countries of British origin. His figures for 1950 still leave Argentina well above other Latin American countries but below most of the nations of

Western Europe. The United Nations comparisons place Argentina and Uruguay a little above the next Latin American country but far below the United States, New Zealand or Australia.(17) In the absence of more precise information, it appears safe to conclude that the Spanish-settlement areas have attained standards of living somewhat higher than those of countries of exploitation origin but not as high as those of the areas of British settlement. If this is so, the settlement-exploitation contrast can account for only a part of the observed differences. Various other factors need to be explored, including the endowment of natural resources; but the analysis leaves ample room for reliance on Veblen's explanation in terms of the traditions and habits of thought derived from British and Spanish sources.

This is a partial answer, but it is one which opens up more unsolved questions than it settles. If the comparisons seem to indicate that economic growth and business activity in the Spanish settlement countries have been inhibited by their heritage from the mother country, what are the means by which it has operated? Has the limitation been one of sheer unfamiliarity with British industrial techniques and British business practices? This might be true of the earlier history but hardly after Argentina became a great field of British investment in the later decades of the nineteenth century. Does the explanation lie in a set of social valuations which gave greater recognition to achievements in other than economic fields? Or in the effects of Spanish customs on the class structure? If Argentina had a big man's frontier in the days when meat was the great product of the pampas, like that of sheep-raising in Australia and New Zealand and like our own western plains in the days of the cow country, why did it not develop a frontier of small farmer-owners, like those of the United States and Canada, when wheat took the place of meat as the major product? Can the difference be accounted for by geographical factors, or by social and political influence?

How much weight is to be given to the relative helplessness, as compared to the established classes, of the Italian immigrants who became the tenant-cultivators?(18)

Again, the broad comparisons will not of themselves account for striking differences in the development of countries apparently subject to the same influences. Consider the two cases of Argentina and Uruguay, facing each other across the Platte estuary, with similar origins and class structure, with largely similar resources, and each with a large propertyless working class crowding the two cities of Buenos Aires and Montevideo, as that of Australia had crowded the cities of Sydney and Melbourne. Why should the political response to this situation have taken in one country the orderly form which turned Uruguay without political upheaval into what has been described as "South America's First Welfare State"(19) while in the other the political exploitation of the position of the descamisados took the form of the justicialismo of Juan and Evita Peron?

A similar set of questions arises when we examine the countries which began as exploitation colonies. At the beginning some of them rose quickly, in defiance of the dictum quoted from Adam Smith, to a level of wealth far surpassing that of any of the humbler settlement areas. An earlier namesake, Captain John Smith, had indeed grumbled at the Spaniards' good fortune and declared that they would have made as "small profit" as the Virginia colony if they had chanced upon a land "as Salvage, as barbarous, as ill-peopled."(20) This refers of course to the earliest days -- the date is 1612; but at no time in their history could any of our Thirteen Colonies afford to construct buildings as magnificent as the Royal Mint of Potosí or the cathedrals of a dozen cities of Spanish America. Yet the wealthiest of these areas declined rapidly after the easily-won gold and silver were exhausted, and the later history of the Spanish colonies of exploitation origin became in general one

of economic torpor and stagnation, often accompanied by great political instability. How, then, can this be explained? How much of the answer is to be found in a less favorable ratio of population to resources than in the countries of settlement origin? Since the exploitation colonies were never empty areas, have we indeed any reason to expect them to possess economic advantages over populous regions in other parts of the world?

On the other hand, is it not possible to isolate certain institutional factors tending to inhibit the effective utilization of the utilization of the resources that remained in these countries after their first riches were drawn off? And may not these factors be related to the characteristics of the Spanish heritage as modified or even intensified by the structure of classes in an exploitation colony? One suggestion lies in the social valuations given to different types of distinction or achievement. Prestige and power and social position have come in all of these countries from large land-holding and government and the law, in some of them through the church and in some through the army, and in many through wealth acquired in commerce and dealings in urban real estate. These last are typical areas of pecuniary activity which Veblen often described, and he would have found no difficulty in finding in these countries abundant examples of conspicuous consumption. But there has been little tradition of productive investment, and wealth has only rarely been sought or found in technology on modernized agriculture or manufacturing enterprise. In one extreme case, a small country wholly dependent on mineral exports for its foreign exchange was not long ago graduating lawyers annually from each of seven universities but producing only two or three mining engineers a year!

Since the favored occupations are so largely continuations of the roles performed by the Europeans in the early days of the conquest, may not these preferences in part be attributed to the colonial heritage? In certain areas

and absentee ownership. But if these are recognizably examples of business enterprise, they differ from the cases described by Veblen and they resemble the cases of many other less developed countries in the fact that is a business enterprise without a great industrial complex over which to preside. There has been little tradition of productive investment, and wealth has only rarely been sought or found in technology or modernized agriculture or manufacturing enterprise. In one extreme case, a small country wholly dependent on mineral exports for its foreign exchange was not long ago graduating lawyers annually from each of seven universities but producing only two or three mining engineers a year!

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the institutions of the early conquerors were perpetuated in the survival, as late as the middle of the twentieth century, of a system of land-tenure under which the Indian rendered four or five days of unpaid labor to the landlord in return for the right to cultivate a little piece of land for the subsistence of his own family. It would be hard to devise a system providing less incentive to either side for innovation or for the economical use of the factors of production. Even short of such extreme cases, the heritage from colonial times appears to survive in something of a scorn of physical labor on the part of the upper classes and in sharp limitations on the economic opportunities and consequently on the incentives of the underlying population. In most of the nations that have grown from the former exploitation colonies, there remains a great gulf between the predominantly white ruling classes and the underlying mass of the Indian -- or in some countries Negro -- population. May not these long and deep-seated cleavages within these nations represent one of the major barriers to economic progress? If so, there is reason for watching with special interest the development of two countries which have undergone revolutions having as one of their objectives the incorporation of the Indian in the national life, -- Mexico, which did this so long ago that its revolutionary party has had time to change its name to the Party of Revolutionary Institutions; and Bolivia, in which the revolution is much younger and more precarious.(22)

The suggestions from which I have attempted to profit were thrown out by Veblen somewhat casually on his way toward the examination of "The Case of America." I have followed their lead only a short way, yet far enough -- I believe -- to suggest two conclusions. The first is that the economic development of new countries is a fruitful field for comparative study, that their stories show sufficient likenesses and sufficiently striking variations to make comparisons both possible and suggestive.(22) The second is that

success in making such comparisons calls for the most effective possible use of the Veblenian insights into the transmission of institutional heritages and for the critical examination of their relationship to differences in geography, in occupational distribution, and in other areas of more mundane and matter-of-fact observation.

Notes

1. "The Opportunity of Japan," Jour. of Race Development, VI (1915), 23-38.
2. Imperial Germany and the Industrial Revolution, new edition, (New York: Macmillan, 1939), p. 130.
3. "Outline of a Policy for the Control of the 'Economic Penetration' of Backward Countries and of Foreign Investments," in "Two Unpublished Papers of Thorstein Veblen on the Nature of Peace," ed. by Joseph Dorfman, Political Science Quarterly, XLVII, (1932), 189-203. This memorandum, prepared for the House Inquiry of 1917, urged "a policy of retardation and continence" as opposed to the "urgent and unremitting pressure for the headlong 'Development,' that is to say for commercial exploitation, of all these outlying natural resources."
4. See the thoughtful comments of John H. Dales in his Hydroelectricity and Industrial Development -- Quebec 1898-1940 (Cambridge, Mass.: Harvard University Press, 1957), esp. ftn. 30, p. 263. "A steel mill, an oil refinery, a pulp and paper plant, an automobile factory, a cotton-spinning factory or a radio works -- all are likely to be much the same the world over. The more elaborate the technology, it seems to me, the more rigid it is likely to be, and the more appropriate the assumption of fixed proportions becomes."
5. But as a result of it Veblen regarded the difference between the Kaiser's Germany and the Businessman's America as somewhat less profound that it seemed to some of his enthusiastic World War I readers.
6. Introduction to 1939 edition, p. xii. See also p. xx.
7. Absentee Ownership and Business Enterprise in Recent Times (New York: Huebsch, 1923), pp. 120-122.
8. These are rough approximations, based on Census data collected in the three countries under somewhat different headings. The American classification

of "manufacturing and mechanical pursuits" is brought into approximate conformity with the Australian and New Zealand category of "industrial" by subtracting "fishermen and oystermen" and the larger group engaged in the "extraction of minerals." The "country" category is obtained in the American case by adding "fishermen and oystermen" to the heading of "agricultural pursuits" and in the Australian and New Zealand cases by subtracting "mining" from the total of "primary producers."

9. John B. Condliffe, New Zealand in the Making (Chicago: University of Chicago Press, 1930), chs. VII and VIII.

10. The argument of this and the preceding six paragraphs was stated more fully in 1928 in Carter Goodrich, "The Australian and American Labour Movements," Economic Record (Melbourne), IV (1928), 193-208.

11. "The European heritage of Spanish America was very different from that of the United States. This was not only because the former came from Spain rather than from England but also because it originated in the Europe of the seventeenth and eighteenth centuries. The colonization of America by Spain was well under way by 1500; that by England was not begun until after 1600. The intervening years were marked by a transformation of European life and culture. This transformation was an integral part of the original heritage of the English colonies, but it was accorded a different reception in the older Spanish colonies." Silvio Zavala, New Viewpoints on the Spanish Colonization of America (Philadelphia: University of Pennsylvania Press, 1943), p. 3.

12. Mariano Picon-Salas, De la Conquista a la Independencia (Mexico: Fondo de Cultura Economica, 1944), p. 47. Perhaps the reader can find a better translation than I for the word "estilo" in the final sentence, which in the original is as follows: -- "Hasta hoy los pueblos hispánicos no han conocido plenamente el estilo de la economía capitalista."

13. Id., p. 42.

14. "The English eliminated the indigenes; the Spanish preserved them as a reservoir of exploited labor. Thus the farm colonies were extermination colonies, whereas the exploitation colony could continue only as long as there were subject peoples left to exploit." Harold Osborne, Indians of the Andes, (London: Routledge and Kegan Paul, 1952), p. 165. The terms "farm colony" and "plantation colony" are from A. G. Keller, Colonization: A Study of the Founding of New Societies (New York: Ginn, 1908), p. 4. Still earlier, Paul Leroy-Beaulieu, de la Colonisation chez les Peuples Modernes, Fourth Edition (Paris: Guillaumin, 1891), pp. xii-xiii, distinguished between "colonies de peuplement" and "colonies d'exploitation." It should be added that the history of the Maori somewhat distinguishes the case of New Zealand from those of the United States and Australia and that the word "extermination cannot be taken literally except in the case of Tasmania.

15. Adam Smith, An Inquiry into the Nature and Causes of the Wealth of Nations, 2nd edition ed. by James E. Thorold Rogers (Oxford: Clarendon Press, 1880), vol. II, p. 144.

16. Zavala, Hispanoamérica Septentrional y Media: Período Colonial (Programa de Historia de America, II, 3), (Mexico: Instituto Panamericano de Geografía e Historia, 1953, p. 25. Charles H. Haring, The Spanish Empire in America (New York: Oxford University Press, 1947), pp. 33-34.

17. Colin Clark, The Conditions of Economic Progress, First Edition (London: Macmillan, 1940); Third Edition (London: Macmillan, 1957), Tables XI and XIX. United Nations, National and Per Capita Incomes of Seventy Countries -- 1949, (New York: 1950). Most of Chile, Costa Rica, parts of Colombia, and the São Paulo region of Southern Brazil may also be thought of as "settlement" areas. If figures were isolated for the last of these, they might well prove to be higher than those for Argentina.

18. Isaiah Bowman, The Pioneer Fringe, (New York: American Geographical Society, 1931), p. 303.

19. George Pendle, Uruguay: South America's First Welfare State (London, New York: Royal Institute of International Affairs, 1952.) Note also the titles of Simon G. Hanson, Utopia in Uruguay (New York: Oxford University Press, 1938) and Russell H. Fitzgibbon, Uruguay: Portrait of a Democracy (New Brunswick, N. J.; Rutgers University Press, 1954.)

20. John Smith, Description of Virginia and Proceedings of the Colonie (Oxford, 1612), in Lyon Gardiner Tyler, ed. Narratives of Early Virginia (New York: Scribner's, 1907), p. 178.

21. Carter Goodrich, "The Economic Transformation of Bolivia," New York State School of Industrial and Labor Relations, Cornell University, Ithaca, New York, Bulletin 34, October, 1955. It should be noted that entrance into the "predominantly white ruling classes" of individuals with Indian or Negro ancestry is more common than is usually realized in the United States.

22. This point is made very persuasively by Zavala in the passage on "The Comparative Method" in Hispanoamérica, pp. 32-35. Each of the countries, he points out, has had to "penetrar la tierra nueva, fundar los establecimientos, comerciar con la metropoli, independizarse." The specific reference is to the countries of the Americas but in another passage (p. 24) he refers also to the British colonies in the Antipodes.

FARM COSTING RESEARCH IN INDIA

Walter C. Neale

1. Problem of the appropriate kind of farm operations research: i.e., are cost accounting, farm management, input-output techniques taken from agricultural economic methods of U. S., and Great Britain either relevant or do they reveal the circumstances of the peasantry in India.

2. Current Indian Research:

   1. A three year project at 6 centers to establish cost of production of various crops, and incomes and outlays. Villages and personnel selected by random sampling.. Records -- farm accounts -- kept by resident field workers.

   2. Some centers conduct parallel and overlapping surveys by "occasional questionnaire" method. Objective is to see if extra costs of method #1 are justified by the higher accuracy of method #1. The results under method #1 assumed to be the proper yardstick.

   3. Four agr-economic centers are conducting surveys independently, each center experimenting todiscover better means of measuring, and more accurate measures of, rural socio-economic data.

3. Contention is that efforts under #1 and #2 (and under #3 inso far as they approximate to #1 and #2) are misdirected in that they do not attack the variables which are relevant to peasant behavior:

A) Problem arises where a large portion of output is for home consumption.

B) ditto where "alternative costs" are not measured on the market (leisure, eppecially of servants).

C) ditto where circumstances of operation do not permit (encourage) a market oriented reaction(e.g., labor).

D) ditto where relevant inputs never have been a probability cannot now be evaluated in money terms: especially the case of capital inputs: e.g. irrigation and engineering works built-maintained over long periods, especially by village servants and craftsmen and/or coop. labor: cite Hill communities, reclamation especially of sections of fields.

E) ditto where "market-rationality" differs from peasants ratnional behavior.

a) Market rule of <u>efficiency</u> is that MC= MR, i.e. Profit Maximization.

b) Rule of survival is that cash income → cash outlay. (b) approx. to (a) where most costs are cash outlay as in commerce or a fully monetized industrial economy or highly specialized agricultural economy (as in Denmark, N. Z.)

Where gap between (a) and (b) is great -- evidence of 3:1 ratio in India -- peasant moves to survive and fit their social environment can be very different from moves to maximize. Point is this can be correct and intelligent, and is not a sign of ignorance or foolishness.

4. All of these conditions apply to India:

A) as much as 80 % is non-monetized. Average of non-monetized is perhaps 60% (cf. B of E. I.)

B) Absence of alternative jobs. Desirability of leisure. Position of permanent servants, whose alternative leisure may be of no concern to farmer.

C) Peculiar relations with labor (tenants dependants): custom: relation with mahajan or landlord: limits of environment -- soil and rainfall: absence of contact with market.

D) as cited above.

E) as above, and cases where rationality re (C) is not rational re market; e.g. Need to eat, guaranteed supply, independence (of mahajan): short-run view (health of peasant and condition of bullocks): long run view (rotation, maintaining family operation, maximization of family operation).

5. Conclusions from 2 #1 and #2 may be in error either in regard to welfare or to policy decisions:

A) Figures of net income may be misleading when peasants do not actually incur some costs or in effect enjoy a higher price. e.g. most costs implicit, so no matter how high they do not reduce available products, owned or fixed-rent land, farm and permanent servant labor, own seeds, manure, feed from stalks, all leave some food and cotton etc. for farmers.

When farmers store own grain they in effect consume later at retail price of ~~flour~~ not harvest price of grain, which is common accounting procedure.

Ergo real test of welfare is not Harvest Value - Costs, but food etc. available for family to consume plus net additions to productivity of farm.

B) Policy decisions based on farm accounts may be to

a) give farmers a min. price

b) sti mulate production

c) stabilise price

d) decide on lend/borrow capacity of farmers.

e) evaluate national Y, Savings, growth of Agric. Y, and take decisions on such basis.

YET:

a) Minim. price may not be needed to maintain production if effective price $>$ survival price.

b) Supply-curve is based on conditions under 3 and 4, not on presumed or imputed market price. $\therefore$ rational reaction may not be at all simply correlated with expected rational market reaction.

c) Price stability a virtue for towns, but not important for farmers in so far as (a) and (b) apply. While high P obviously good for cash expenses -- Rents Revenue --, this is lesser portion of peasants' "income" and "outlay."

d) Farmers loan-risk rating depends on ability and willingness to repay. Thus: a poor accounts position can be associated with good ability to pay: i.e. Imputed Income $<$ Imputed Costs Gvt.

Cash Income $>$ Cash costs , while a good accounts position can be associated with poor ability to repay.

Imputed Y $>$ Imputed Costs

Cash Y $\leqq$ Cash Costs, and this may not be helped if farmer uses loan to improve account but not cash position.

e) These considerations mean that relevant welfare Y of peasant may not = computed agric Y, savings potential may exceed or fall short of accounting position as when capacity for non-money I (= S) is large or when cash outlay rises relativeto cash income.

6. Conclusion in regard to farm management research is that data of farm cost type will not be so useful as anticipated, neither reflecting problems relevant to peasant nor measures for planning.

What would be better employment of resources of research?

1. Large agric. magnitudes by recently adopted crop-cutting, coverage extended by type of crop and division into sub-samples.

2. For cash costs, widely stratified sampling of cash costs -- e.g. fertilizers, iron, pumps, engines, revenues, rents, and cesses, bullock and buffalo prices.

Trends can then be related.

3. A) For farm operations questions are to find out relevant factors: requires more sensitiveness, direct observation, discussion, to discover variables which farmers consider in various areas.

B) Also detailed observational reports on working of markets -- e.g., how bargains are struck, means and terms of payment and delivery, frequency of attendance, reasons for attendance, systems of grading, systems of finance.

C) Find out why farmers do and/or do not invest in

Fixed Capital

Equipment

Livestock

Manures

Fertilisers

Rotations

and under what condition they would invest (also would market) more?.

This means

A & B) Observation by attendance, evaluation of conversation and hearsay.

B & C) Non-quantitative questioning.

A result is less formal sampling and interview and recording procedures; more sensitiveness to "sense of the situation", understanding of attitudes and motives.

Only after the variables which are relevant to farmers have been discovered, and have been put in a quantifiable form in each case suitable for a particular area, can one adapt farm management techniques to a peasant economy.

EcyScy
Feb.63

for Hart

Economies and Societies in Transition

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Harry W. Pearson, Bennington College (HWP not yet responsible)

Institutional Analysis

The elements used here in an institutional analysis of social and economic organization and changes therein are specific concepts of an institution and of the economy. Both concepts and their constituent sub-concepts are operationally defined, and defined so as to make possible general cross-cultural or inter-temporal comparisons and to isolate the particular activities and ideas in which change is likely to occur.

An institution is identified by three characteristics. First, there are a number of people involved in a set of activities (logically, at least two people, although the social scientist would probably be interested only when the activity engages numbers large relative to the population being studied). Secondly, there are rules organizing the activities so that there is repetition, stability, and predictable order in the activities. Thirdly, there is a "mythology" explaining or justifying the activities and the governing rules.

People are easily identified. The rules are identified by observation of regularity in event sequences. People find themselves in specific situations, in each situation they know what to do, and do it. To the analyst it is only necessary to observe and record what happens and he can, after a number of observations, state that in such-andsuch a ~~type~~ of situation this person will do thus-and-such and another will do thus-and-so. In observing speech is as much an observable activity

as bodily movement and manipulation of objects. It is no objection to raise questions of the meaning of the speech--the particular words, intonations, and expressions would be recorded as they occur in the situation. From observation of ~~the rules~~ activities and construction of testable rules of regularity ~~alone~~ one does not understand the institutional organization being observed, nor can one assert that the activities comprise one institution, although similar situations and similar responses according to rules are strong evidence that the situations should be classified within the same institution. Coming to a factory, manipulating machines, leaving, doing the same five days in a row but then skipping two, can be described without understanding the meaning of the activities (and of course the factory and the machines can be described without using the term or knowing what a "factory" is). One can also learn about the remarks made at different times during the day under different conditions and report a regular pattern. (Such reporting with"misplaced" emphasis has at times been done for humor).

The myths are necessary to understanding. The myths tell one why the activities are going on, how they are related, what is thought important and what unimportant in the patterns of regularity. Myths, like rules, can be discovered by observation, but here the eye is a minor instrument and the ear a major one. The analyst asks questions and listens to the answers. It is of no importance whether the answers are "true" in the sense that the myths reported reflect the reality of the society, still less in the sense that the myths correspond to our ideas of scientific accuracy. If respondents were to lie about their own beliefs about the myths, ~~then the observations would be useless; but this is true~~ the replies would be as "objectively" misleading as any misinformation, however acquired -- but the lies themselves

would be significant indicators of values in the myth system. If ~~of any misinformation however acquired. So long as~~ the answers reflect the beliefs of the participants about how and why the activities are carried on or beliefs about what justifies or ought to justify the activities, the myth so uncovered is the one appropriate to institutional analysis.

In operational prodcdure the answers elicited by the questions "How?" or "What?" are the rules. The answer to the question "Why?" is the myth.* When one finds a common pattern of reply to

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*In the terminology of linguistics, now coming into use among some ethnographers, the identification of rules and myths by interview is the identification of "lexical clusters"--e.g. "God's will", "to stay healthy", "because that's the way the world is" are lexical clusters here treated as myths. If one were to ask secretaries "What do you do when the buzzer buzzes?" and the usual reply were "I go into the office to take dictation" one would have identified the lexical cluster indicating a rule.

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such questions--"we go to church on Sunday morning" and "because that is the Christian thing to do"--one can state that the people in this culture regard church and Christianity as part of the same institutional structure, and/the investigator is on warning that other replies involving church, Christianity, and Sunday are likely to lead into the same complex of inter-related activities and myths. To call this a "religious institution" is a matter of convenience--we have not established an activity religious of itself, not even a religious function--but we shall follow conventional terminology in such cases.*

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*Let us suppose that some people, perhaps including the investigator, doubt that many in a culture go to church because it is the "Christian thing to do." Would it then not be a myth? On the contrary, it would still be a myth--at a minimum the standard to which these people feel it appropriate to appeal for explanation and justification; and the implied hypocrisy may, of course, reflect the myth of the doubter, who has a particular view of what it is to be Christian.

It is no objection to this kind of observation that one must ask and listen in the particular language of the myth-believers, with all this implies about the investigator "understanding" the language or about the peculiarities of view implicit in any particular language. The "understanding" of the language--the ways and times and places and situations, down to the grammar of the language and the formation of sound clusters--is part of the myth to be learned, as are the peculiar biases of the language.

Each constituent of an institution can be observed or stated as testable predictions of event sequence (1) ~~the~~ people acting; (2) the rules, including the situations in which they are followed; and (3) the myths explaining the rules and the people participating in the activities. The myths explain which activities belong within which institutions, and substantiate or correct the first approximations made on the basis of similarity of patterned reactions. The myths may overtly or consciously delimit the groups of situations or activities which call forth and constitute the institution, or they may only identify the institutional range by implication: by which we mean that when the same set of myths (just-

ifications, explanations) are referred to in response to questions about a range of situations and responses, the similarity of the answers is evidence that in fact the activities constitute one institution.

We then define, or operationally identify, an institution by the common rules governing sets of activities in which people engage and the explanations they give for the rules.*

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*It makes no difference whether the rule is technological--oiling a machine--or social or ceremonial--shaking hands or genuflecting. All have regularity, a stable patterm.

Similarly, the explanation may be plausible or even utterly convincing by the investigator's standards, or it may be wildly improbable if not downright impossible by these standards--again, it makes no difference, for the myth still identifies the sets of activities understood by the participants as somehow "the same."

Certain points may be noted about this approach. First, the institution is identified (or the specific institution defined) in terms of the particular culture under examination; the procedure does not depend upon the outlook of the investigator. Secondly, a necessary corrollary of the first point, the institution is not identified in terms of the functions of functional analysis, nor in terms of Malinowski's "needs".

In addition to the two virtues of operational definition and independence from the idea framework of the investigator, this definition of institution permits us to approach the problems of the functions of an institution and the ways in which change may occur without reference to any particular view of functions or teleology of development.

The function of an institution is neither its purpose as understood in the mythology of the culture--although it may be in part or entirely--nor the necessity for some generalized types of activity, such as economic or political--although again the function may correspond wholly or partly to such as general necessity. In fact, the virtue of the institutional analysis here presented is that it does not beg these questions by assuming the answers but allows the evidence to determine whether there are necessary or universal functions. As we use the term function it refers to the interaction of one institution with another and their mutual reinforcement, and to the easing of the transition from situations structures by one institution to situations structured by other institutions. The function of an institution is thus given by the institution itself and the specific set of other institutions making up that culture. In the comparative study of institutions this approach avoids the problems of prejudging what institutions are to be compared or of whether certain institutions are comparable. The answer to such questions follows from the interest of the investigator, and below we shall take up the specific case of comparative economics.

We may state what is meant by the function of an institution in another way: the function of an institution is to provide rules for action in situations for which other institutions do not provide rules and to lessen the strain of moving from one set of rules to another and to lessen the strains arising from possible conflicts between myths or elements in the total structure of the mythology.*

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*An interesting case of this last function might be illustrated by a comparison of the British Crown with the American Presidency. In

the U.S. there is a conflict between respect for the office of the presidency and the right of any voter to hold any opinion he choses of that man-in-the-White-House, while in Britian the angry citizen can think (and speak) horrid thoughts about the prime minister without implying the slightest disrespect for the Queen.

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and it is exactly here that it becomes possible to examine cases of social change. Two possible sources of change (there may be more) are conflicts between the institutions--either in the operation of the rules of different institutions or in the mythology of different institutions, what might be called "institutional inconsistencies"--and the occurance of situations for which none of the existing institutions provide rules of patterned response.* In either case there will be adjustment, change, the creation of new institutions or the modification

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*The former case may be illustrated by the conflist between habits of mind acquired in modern industry (Veblen's "world of matter of fact") and habits of mind reflecting mystical experience; while the latter is common in cases of contact between very unlike cultures (a particular case of which--Central Africa--is examined below).

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of old ones, and at worst the chaos of violent revolutions or the disintegration of a society. Both these last, unhappy events may be described analytically as the destruction of functioning institutions as a by-product of the intense strain arising from institutional inconsistency or the absence of institutionally acceptable patterns of response. Probably no society has ever achieved perfect institutional consistency, and consequently all societies are continously undergoing change, are in transition from one arrangement of institutions to another. The frequency and speed of change

are in part related to the degree of inconsistency, but are also related to the degree to which the existing functional integration of the institutions permits or encourages changes in old or the creation of new institutions.

Two remarks of lesser importance fit here. A role is defined by a specific institution and refers to the portion of the whole body of rules which a person choses to (or must) follow in a given situation. A status is defined as an ascriptive limitation upon the roles which any particular individual may assume, or conversely an ascriptive requirement that he undertake a particular role in given situations.*

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*Both concepts are crucial to an understanding of the problems of transition in the Indian village, discussed below.

Identifying the Economy

The normal way to identify the economy or economic activities in any society is to look for the activities or events which are "similar" to those we call economic in our own society. This effectively identifies the economy as a group of events which "correspnnd" to those events which economists study in our society. So long as the range of interest of economists was largely limited to western Europe and ~~the old dominions of the British Commonwealth (including the U.S.)~~ it offshoots in recent times, such identification did locate the activities in which economists were interested. Furthermore, it satisfied the criteria that the activities so located (1) generally agreed with the common interpretation of the term, and (2) corresponded with the activities which the people in each society thought of as their "economy." The "scope and method" of economics could be made

formally precise, as Lionel Robbins has done in his essay, without doing violence to "common sense": which is to say, without eliminating any of those activities with which economists wanted to deal or with which most people associated the term "economics". The formal definition--the study of the rational employment of means with alternative uses to maximize the achievement of graded ends, where the totality of the means are scarce relative to the achievement of all ends of positive value--may, and does, include activities which economists do not study, but failure to study everything within the range of a definition need not create problems. ~~In addition,~~ However, there do not appear to be many activities which fit the formal or scarcity definition and are not of interest to economists.

Other ways of identifying the economy, ways which western non-economists might be inclined to use, identified the same events. Where there were possibilities of choosing among varying combinations of means to achieve graded ends money was usually either the direct means or the means of acquiring control over the ~~other~~ specific means needed to achieve the ends, so that a definition in terms of money gave results closely approximating a definition in terms of scarcity. Where "working" or "earning a livelihood" ~~or the "the everyday business of life"~~ was concerned, there also one generally found "choice limited by scarcity" and money. In effect, choice of definition among the competing possible definitions made no difference of substance. Whenever items which were not common-sensically "economic" were included in the definition they were ignored; whenever some item which was common-sensically "economic" was excluded it could be included by a little quiet imperialism, justified by the ability of economists to re-cast the matter in terms of implicit or hypothetical choice.*

*For instance, traffic fines are monetary, and can be treated as a choice of the electorate among ways of raising money, and one could treat the speeder as choosing between varying speeds, times of arrival, and risks of fine within the frame of a preference map given form by his risk aversion. The restructuring "fits" and a monetized event becomes a "choice" event; but do we really feel that crime and punishment are economic? But then, why worry? Economists do not study traffic courts.

In these circumstances the problem of identifying the range of interest of economists arose only for economic historians (Johannes Hasebroek, Gustav Schmoller, perhaps Max Weber) and anthropologists (Melville Herskovitz, Raymond Firth, Bronislaw Malinowski) and the problems which worried them did not arise in the mainstream of economists' efforts.

It should be emphasized at this point that any system of analysis which has been worked and re-worked to the point where it is internally consistent is "universal" in one sense all items can be made to fall within one class or another of the system, especially if the system provides for "implicit" characteristics and an "all other" class. In economics there is a consciously used class of "implicit rents" and "implicit profits," which class can contain more such items, and an "all other" class of tastes, preferences, or indifference maps. Thus one can write an economic history or an economic anthropology by hypothesizing implicit choices made on the basis of preferences which are assumed to exist either consciously or unconsciously.

Walter

WALTER C. NEALE

The Substantive Definition of the Economy: Services and Material Want Satisfaction

In defining the substantive economy in terms of material want satisfaction services have always been a problem. There are wants, of all kinds, which require material means for their satisfaction. The supply of these material means is economic in the substantive sense. There are also "material" -- i.e. physical -- needs which can be satisfied by non-material services: e.g. being served at table, being fanned in the tropics. It has been felt that these services are also economic in the substantive sense and that the definition of the substantive economy should be so drawn as to include them.

At the same time, it has been felt that other services are not economic: e.g. that the priest's services are religious, that the teacher's services are educational or cultural (i.e. transmission of the culture). Efforts to define material want satisfaction so as to include the services which minister to physical pleasures -- there do not seem to be any "needs" to which these services minister which are not explicitly pleasurable -- tend to include the non-economic services.

It is here proposed that ~~(perhaps)~~ there is no need to include any services within the definition of material want satisfaction. The reason is found in the concept of "embeddedness", in this case applied in a direction opposite to that in The Great Transformation. Let us look at services.

Services may be pleasant (massage), unpleasant (flogging, punishment), social good (sermons), or technically necessary (ploughing). The first and last of these are, or may be, economic. The second and third are not, or certainly do not cater to physical needs. But are the first and fourth economic because of some inherent physical or material characteristic? They are not. They are, or can be, economic because they are embedded in an institution or a process which is economic for other reasons.

A massage is economic when performed by a Swede (for pay) or a servant. If my wife gives me an alcohol rub it is not generally thought of as a part of the economy -- it is an expression of love and arises from the family system. When we call the massage by the masseur or the servant economic we do so because these services are organizedby the same (economic) institution as organizes the provision of material means to satisfy wants. It is only when the provision of a service arises in the same institutiton as do material means that it becomes economic. (i.e. only indirectly).

Ploughing is a service and it is economic, and the reason is obvious. It is necessary to the production of food or clothing -- material means of satisfying wants. A ritual ploughing would not be economic. Prayer is technically necessary to a Mass, but prayer is not economic because a Mass is not a material means of satisfying wants.

One service, or performance, in particular illustrates this point. Sexual satisfaction is physical, the partner is material. Next to eating, drinking, and sheltering from the climate it is our strongest physical urge, and it is pleasurable. It is an A-1 candidate for an economic service, and yet it rarely is. Most sexual gratification anywhere is kept definitely separate from the organization of other services, and in those cases where it is not, it is peripheral and often in the nature of a safety-valve to provide outlet for the rare but unavoidable cases where the usual (marriage) institution is unable to provide for everyone all the time. And even here it is as apt not to be economic (temple "prostitution" is a form of religious dedication) as to be economic (whore-houses managed for profit). The divorce of sex from economy runs from the religious sanctification of marriage to the putting of high school "hygiene" courses in the science instead of the business department. (Parenthetically, one might ask if any tendency to regard sexual gratification as an economic service would not be lessened if looked at from the woman's point of view.)

Now,services are actions by humans, or, rather, humans engage in many actions of many sorts with many different results, and these actions become services only when they are embedded in the provision of material means or the institutions designed to provide these means. As the economy of Trobriand yams is embedded in the Trobiand institution of kinship, so the services of a Swedish masseur are embedded in the economic institution of the market.

This analysis indicates that most of those services which we feel must be economic are included in the economy because they contribute to the provision of material means of want satisfaction. If this organization of labor (services) for the provision of material want satisfaction also organizes other services, then these other services are economic by virtue of being embedded in this (substantively) economic organization. There is no reason to regard any other "services" as economic, and many reasons for regarding them as non-economic (e.g. either religious or health or marital or culture transmitting).

This appears to answer the questions of whether teachers and doctors and priests and lawyers are inherently part of the economy. They are not. It is only when they are organized in the same fashion as are substantively economic workers that their activities become economic. This occurs in our market system. It will also occur under other systems,

as when a uniform slavery organizes field labor and teachers, or when a guild system organizes artisans and doctors. But the king's judicial agent a thousand years ago was part of the political system, not of the economy. (always excepting the cost factor)

It may be objected that all these people use material means to satisfy their wants and are therefore part of the economy. This is true, but by virtue of their position as consumers of material means, not by virtue of the functions they perform. Obviously every person is part of the economy in this sense, but it does not make his other activities economic any more than believing in God makes the ploughman's ploughing religious. The lines of classification of human activities and relationships are drawn to clarify functions, similarities, and differences; not to prove that everything is the same.

Subsidiary Note:

The absence of a specifically, substantively economic character in services may account for some of the difficulties which labor economists encounter in formulating theories of labor unions and labor relations. In so far as they portray factory organization and the wage system (and the returns to labor) in general there is no great problem in fitting labor into the economic (market) system. Where their problems arise is in fitting what may well be non-economic (in the substantive sense) activities and institutions into the substantively economic institutions. Unions and labor relations may then require another discipline if many questions about their history, organization, and functions are to be answered. Perhaps similar considerations apply to the study of consumer behavior.

Dean Barnaby C. Keeney
Dean of the College
Secretary to the Administrative Board of
the Howard Foundation
Brown Univ., Providence, R. I.

"I should like letters from well-established scholars who know you well. I should have these things by the first of January."

Dr. Prof.

LAND TENURE AND LAND REFORM IN UTTAR PRADESH

By Walter C. Neale

A Summary Statement of the Argument

In the present struggle of former colonial areas to raise their standards of living it has become axiomatic that land reform is a prerequisite to any advance, while the present tenure system is frequently blamed on the colonial powers. The poverty of under-developed regions is obvious, and so is the importance of agriculture to these areas. It follows that the organization of agriculture must contribute to development, and development to the welfare of those on the land.

It does not follow that these areas are backward because there are landlords or because the colonial powers pursued particular policies, nor that the abolition of landlords will remove the obstacles to development. The major force acting upon the societies of backward areas during the past century and a half has been market capitalism. Enough western elements were introduced to disrupt the old society, but not enough to bring the rapid economic advance enjoyed by the west to colonial areas. One crucial element lacking in India was a constantly increasing supply of capital. The roots of poverty lie in the lack of capital and in the incomplete introduction of the market as illustrated by uneconomic subdivision and fragmentation of holdings.

The history of land tenure and an analysis of modern agricultural conditions in Uttar Pradesh lend little support to proponents of reform; insecurity of tenure, harshness of legal administration, and exploitation of the cultivator were all well on the way to being taken care of fifty years ago. Present reform programs, despite their revolutionary phrasing, merely continue the policies developed by the British administration.

Before the British came to India the economy was organized in self-sufficient villages, which in turn were groupings of large families. Economic relations were governed by caste and custom. Above the village, but not essential to its life, were kingdoms and empires taking a share from the grain heap and trying as best they could to maintain law and order. There was no buying and selling; the ordering of economic life had no place for a price mechanism. The great change in Indian economic organization occurred when the British introduced the concepts of ownership, sale, and the rental market. The old Indian system did not clearly differentiate between economic and political power, nor between such power and social status. Everyone had rights in the produce of the land, obligations to the village, and a greater or lesser ability to enforce his will upon others. The zamindar was originally a collector of taxes, but this statement is misleading by itself. Unlike the tax collector of today, the zamindar might also be the leader of the highest caste in the village, headman of the village, and senior member of a clan with hereditary rights over the village. Who can say how many of these characteristics make a man an owner in our sense? The question never arose among the Indians.

Before the British came to India constant wars, raids, and revolts impoverished the country-side and made it a place of personal danger. Peasant rights were always subject to armed might. Furthermore, the complexity of rights in land and to the produce of land was so great as to make reasonable several different distributions of titles and rights. Every member of Indian society had

some sort of claim upon the land from the raja's right to land revenue down to the slave ploughmen's right to a share in the village grain heap.

The British thought that the maximum of material welfare and economic progress would be achieved by leaving decisions to those who produced for sale on the market. This was a mistake of crucial importance: a failure to realize that rational market behaviour occurs only when the owner of land is producing for a market. In U. P. neither the landlord nor the cultivator were doing so. Markets only allocate resources to their most productive uses when the factors of land, labor, and capital are intimately connected through working mechanisms. Pressures in one sector must set up self-correcting changes in other sectors. Real connection between markets were lacking in U. P., and the most important market for economic progress, the capital market, did not exist, ~~in any useful form~~. The nature of the error was never appreciated by the reformers who believed and still believe that the error lay in some mistake in the distribution of rights among the various claimants. An analysis of the problem shows that true reform lies in another direction.

The history of ownership in U. P. during the first half of the nineteenth century shows the British moving into a society disrupted by rajas, talukdars, and zamindars competing for power. For each piece of land the British recognized one as "owner," and ~~much~~ land was given to the wrong persons. When the "right" person got the land he received with his title more power than he had ever enjoyed, and the sale of land for arrears of revenue created a new class of owners. About 1820 the British realized that many cultivating tenants had justifiable claims to a special position on the land and the revenue officers set about recording these customary rights. Cultivators of twelve years' standing were given an inalienable but heritable interest in the land, inter alia permission to hold at a reduced rent. So began the gradual encroachment of tenants upon the rights of owners. The policy of increasing tenant rights at the expense of landlords received a set-back with the annexation of Oudh and the Mutiny, for virtually absolute ownership was given to rebellious talukdars who would submit peacefully. In the seventies and eighties Land Revenue and Rent Acts transferred more of the powers and profits of ownership to the tenants. In the early part of this century tenants were guaranteed seven years at the same rent, and twenty years later all tenants received a life interest in their land with rents fixed by a Rent Officer. In 1939 these rents were made heritable. The two outstanding characteristics of land policy in U.P. were the transference of the attributes of ownership to tenants, and the persistence of a land market as the framework for agricultural organization. While it is true that the owners lost rights which we associate with ownership, they could jointly exercise all the rights of ownership by combining with their tenants.

Limitations on the market did exist in a number of cases. Special legislation for the Bundelkhand area prohibited non-agriculturalists from holding land, and other acts limited mortgagees-in-possession to twenty years and created procedures for making some lands inalienable at the option of the owner. Debt reduction and stay of execution legislation prevented the market from operating in the ordinary fashion in the thirties. The British were willing to tinker with the ~~sale~~ market, but they never gave it up.

While the British were increasingly regulating the market, the Indians were ~~changing their attitudes~~. Whereas the Indians at first simply did not play the market game, the landlords after a time began to seek ways around the regulations,

and in the end we find the population trying to maximize on a market while the originators of the market were trying to prevent this behaviour because they had found that under Indian conditions it did not bring desireable results.

In the course of these developments the revenue officers became the focus of an artificial market. In the beginning they tried to levy the revenue upon the economic rent, but, as markets did not exist, it was impossible to compute either the value of produce or the costs of production. Then the officers began with a "fair" sum for a district and apportioned the total among the villages and then among the landlords. Although not recognized as such, this change was in fact a very significant one, for the system replaced the concept of economic rent by the criterion of past collections. The system was gradually modified to take account of the rents which tenants actually paid, but it was always necessary to adjust the recorded rents to allow for fraud and peculiarities of local custom and caste. A series of circulars instructed revenue officers to use as a basis for corrections, and computations of value and rents, the prices of agricultural produce, of similar land recently sold, rents freely arrived at elsewhere in the district, and, in effect, all of the elements which rational men on a market would take into account. The revenue officers were trying to arrive at those rents and values which a properly functioning market would reach automatically, but which the Indian market did not achieve.

The market for land was a failure. Contrary to expectations the market system did not bring with it a huge increase in material wellbeing. It is often said that there has even been a decline under British rule, but the evidence points clearly to a rise in living standards during the nineteenth century although stagnation and perhaps some decline has since occurred. But in fact Indian progress has been insufficient to satisfy anyone.

The failure of the market to succeed is largely due to lack of capital. "Overpopulation" is not a shortage of land, for capital can always substitute for land, bring new land into cultivation, and increase the productivity of old land. No organization of agriculture will be useful if it does not increase the supply of capital. Agriculture suffers from smallness and fragmentation of holdings as well as lack of capital for storage, irrigation, reclamation, education, and manure. The first difficulty can be overcome by a reform of tenures; the problem is not the landlord's tenure, but the subsidiary tenures of the cultivating peasants.

Imperfections in a market will lead to less than maximum results, but it is strange when imperfections lead from bad to worse results. Six arguments are commonly put forward to explain the stagnation of agriculture in U. P.: the laws were harsh and "tricky"; the laws were evaded; the administration was biased against the peasants; the assessments of revenue were too high; the level of rents was too high; and price fluctuations destroyed incentive and ruined the peasantry. Do any of these arguments stand up to the evidence?

The procedural provisions of the law were straightforward, there were ample opportunities to protect one's rights, and from the middle of the nineteenth century onward sales for arrears of revenue were rare. While there were abuses and evasions of the law, the figures for acreage and numbers of tenants protected by the laws increased steadily, as did the figures for owner-cultivated land. Unfair treatment of cultivators occurred in the early thirties, but the cause, agitation by the Congress Party, was political and, during the rest of British rule, the bias was in favor of the tenant.

The charge that revenue assessments were too high does not fit the evidence, for stagnation and reductions in the revenue burden coincide. Furthermore, a reduction

in the revenue burden would lead to development only on the unlikely assumption that the poor landlord would use the increase in retained income for capital improvements. These same criticisms apply to the popular charge that rents were too high. Also, the high rent argument puts the cart before the horse. In a market system the returns to a factor tend to approximate the marginal productivity of that factor, and in Indian agriculture the marginal productivity of labor is close to zero. Rent and interest eat up the earnings of agriculture because the productivity of land and capital is high relative to the productivity of labor. Statistical evidence indicates that a reduction of five per cent in rents will increase the tenants standard of living by two or three per cent, while an increase of five per cent in acreage or output from better seeds will make the peasant twelve to forty per cent better.off.

There can be no doubt that fluctuations in price were a cause of distress during the depression of the thirties, but prior to this time the trend of prices was upward. In U. P. prices did not show a downward trend before 1929 although agricultural prices in world markets did. The cultivators were hard hit by the fall in prices. They were immune in so far as they produced for their own consumption, but the amounts to be paid for rent and interest on loans had to be raised by selling their produce. However, rents were shortly reduced to the 1900 level by government order. Landlords were even less affected except by the fall in rents. Sale value of land was maintained during the thirties, and so obligations could be met. While it is true that the depression of the thirties, was a disaster, it cannot explain the failure over the preceding hundred years.

On the one hand the market failed because the organization was not complete. Changes in relative values should shift factors from less to more productive employment. In U. P. there was little accumulation of capital and consequently labor had no place to go but to the land. During the thirties the standard of living in the urban centers rose, but there were not nearly enough industrial establishments to absorb the excess labor. Such savings as there were tended to go into higher land values for reasons of security and prestige. In addition, much agricultural production was consumed on the holding and so market prices had no effect on output. Price and production series clearly show that relative prices had no effect on the management of land. Without real choice the market system cannot achieve optimum allocation.

On the other hand living standards failed to rise because there was a failure of capital accumulation. Under any system the ratio of land and capital to men must be raised if India is to progress economically. This is a matter of technology. No change in titles to land can solve it, but the places where more capital would revolutionize agriculture are legion.

The zamindars have been abolished. They were abolished partly because it was thought that they were an obstacle to agricultural progress and partly because the government wanted to equalize wealth. The second reason cannot be disputed, for if equality is an aim, then partial expropriation is a reasonable method. The danger in land reform lies in the hopes aroused, for there is an implicit promise that incomes will rise with reform, and if they do not rise the reaction may be violent.

Land reform gave all titles to land to the state, which in turn has made the village governments trustees. However, the situation of those on the land has not changed appreciably. Landlords have lost the land that they formerly rented, and have received in exchange only partial compensation, but they hold the rest of their old land as bhumidars with most of the rights of ownership. Most tenants have become sirdars, which is merely to say that they now are privileged tenants of the

State rather than of a landlord, and they continue to pay the same rent. A third group of holders, called asamis, are former tenants-at-will, and they have little more protection today.

Far from a small minority of zamindars exploiting the vast majority of tenants, perhaps a quarter of the agriculturalists were zamindars. All but one or two thousand were middle or small zamindars so the expropriatory measures did not affect many landholders. In addition to expropriating the larger zamindars, land reform abolished the rental market, dealt a death blow to the mortage market, gave occupancy rights to a few more of the fringe of unprotected tenants, and allowed the tenant to make any desired improvement on the land. All four changes could have been achieved by four amendments to existing legislation at much less cost and with much less social upheaval.

Discussion of the future of Indian agriculture has centered around the questions of large mechanized vs. small peasant farms; and of cooperative vs. collective vs State farms. But these are not real questions. The only alternatives which are possible at present are small peasant farms and peasant cooperative farms, and here the government's desire for cooperative comes up against the cultivator's desire for his own plot. The real problems of development are capital accumulation and the size of holdings. It is foolish to cast the problem of capital development in terms of large mechanized farms. Capital improvements are divisible down to the spadeful of manure. Small peasant holdings need steel tipped plows, iron harrows and water rather than tractors. The only source of capital is agriculture: industry and commerce need all the resources they can raise and then more. Thus the conclusion is that the burden of revenue and rent far from being decreased, should be increased in order to finance capital improvements.

Since the passage of the land reform bill the government has undertaken to force the consolidation of fragmented holdings. This is all to the good, but even with consolidation holdings will be too small. What is needed is a movement from the land into industry. To achieve economic size for each holding more than six million cultivators will have to move--a staggering prospect. But much can be done if only a million to a million and a half would move, provided those that move are the "right" ones. The "right" ones are those with holdings of two to four acres and of more than ten acres. People with less than two acres are really laborers with garden plots, and not dependent on their land. People with more than four acres can make ends meet, and even achieve economic holdings if they acquire the land of those who have left. The crisis group is made up of those holding two to four acres which is not enough land to be efficient, and requires a tripling in size to reach efficiency. Cultivators with more than ten acres are efficient, but if they move they will release far more land for others than departing small holders. If a million or more of the groups with two to four acres and those with more than ten acres left the land, there would be enough to bring the remaining cultivators over the six acre minimum needed for economic efficiency. A labor draft system might be avoided by the use of subsidies and penalties.

Because there were no alternative uses for the factors of production, the market mechanism failed to achieve the rapid progress which was hoped for. The solution to present poverty must then lie either in making the market function properly or in substituting another system which will increase the ratio of capital to men. Land reform in U. P. did neither. The market remains, but so do the gaps between the land market and the other factors. Since nothing was done to correct the basic faults of the old zamindari system, there is no reason to expect th t the new bhumidhari-sirdari system will be any more effective in alleviating poverty in rural U. P. Under the stimulus of the Five Year Plan and with the development of

resources undertaken by the States, the lot of the cultivator may improve. If this happens it will not be because the zamindari system was bad or because the new system is good, but because capital resources have been developed and alternate employments with higher productivities have been provided.

(1) Industrialization

(2) Expropriation of all landholdings above 10 acres

(3) Improvement of agri production thru large scale investments (manure, irrigation, storage, education, reclamation etc).

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Comments on Steiner on Labor

Steiner says "labor is any socially integrating activity which is connected with human subsistence....and which thus presupposes, creates, and recreates social relationships." (p. 11)

I think the key, and the key to possible trouble, lies in"subsistence". Earlier (p. 10) labor is activity "in accord with laws of.....society.....in order to gain.....livelihood." Steiner differentiates between activities irrelevant to the group (sports) and those which assure a role in the group. Agreed that economics (labor) is the latter sort. But so are many non-economic (and therefore not-labor?) activities. Question remains of where to draw the line (or a borderland march). In Steiner this is decided in terms of "livelihood" or "subsistence".

Of these two terms "livelihood" is certainly the better since it has a greater inclusiveness. "Subsistence" is either food or food and shelter, but has to be stretched to include beer and china, and stretched much too far to include movies and night-club singers. "Livelihood" includes these, but actually "livelihood" is not synonymous with "subsistence" for Steiner's purposes. "Subsistence" defines in terms of the immediate product of the activity, while "livelihood" defines in terms of the activities which result in the acquisition of subsistence goods. Thus we arrive at the point where what one does for a "livelihood" is "labor", and I am afraid that "livelihood" becomes itself defined in terms of "labor".

To a large extent the material-means-of-want-satisfaction definition solves the problem, for "labor is that activity which produces the material means." I think one might add "socially integrating" before "activity".

The real problem arises in regard to "services". To the economist it is apparent that there are satisfying or useful streams-of-utility which have no material embodiment: personal services, medical advice, dancing for the entertainment of others. The question is when are these economic services (Natch girls?) and when non-economic activities (sermons?). If it is integrative activity leading to livelihood, virtually every integrating activity becomes economic (labor) and we really have no particular field of study. If it is integrative activity in the area of subsistence, too much that would commonly be called labor - and rightly so - would be left out.

It was this problem of services (non-material means of satisfying wants) which I dealt with in my previous note, "The Substantive Definition of the Economy: Services and Material Want Satisfaction". The difficulty has been that the activity itself is not clearly aconomic or non-economic (singing in night-clubs and singing in church) and that the particular wants satisfied are not clearly economic or non-economic. The latter approach has been attempted through arguing that utilitarian wants ("lower order of wants" in Jevon's phrase) are economic, but wants are physical or psychological and while some are pleasant and some necessary (in how many senses?), no satisfactory line has been drawn (for the paid painter satisfies higher aesthetic wants).

It seems that the answer is to ignore the quality of the activity or of the want, and concentrate on the organizing institutions. Where the service is organized in the same way by the same institutions which organize the provision of material means, the service is labor and is economic, and this implicitly includes the "integrative" idea.

The difficulty with the Steiner is related to the difficulty of the utilitarian school: each depends on a word ("subsistence" or "utility") to which we cannot give a satisfying definition.