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Misplaced Concreteness: Land

Land Economics

The preceding chapters have shown how the aim of economics to be a deductive science has led it to highly abstract treatments of exchange, of success indicators, and of the human being—and then to draw conclusions from these abstractions as if they corresponded to concrete facts. This chapter adds land to the list. There is, however, a difference. Whereas the market, GNP, and *Homo economicus* are abstractions that powerfully shape thinking about the economy, the abstractions by which land has been represented as a distinctive aspect of the economy have faded to the periphery or disappeared altogether.

This chapter, accordingly, has a double project. First, it needs to determine how land has been viewed by economists, and, second, it needs to show why their abstractions have proved unimportant or uninteresting. This negligibility of "land" for economists does not mean that its neglect is unimportant. The consequences that follow from ignoring land altogether are at least as extensive as those that follow directly from the particular abstractions that have represented it.

It is important to note at the outset that "land" as used by economists is the inclusive term for the natural environment. There is no separate discussion of the oceans or of the atmosphere or of solar energy. What is treated under this heading of land might have been called nature, creation, the world, the environment, or earth. That it was called land is due to the use of "land" in relation to agriculture, and the fact that agriculture was primarily in view in the discussions among economists. Once the abstractions functioning in economic theory were formed on this basis, there has been almost no point of contact for consideration of other aspects of nature. The extreme difficulty in drawing the attention of economists to the wild facts is due to such factors as these.

Land has not disappeared entirely from economics. There is a sub-

discipline called "land economics" of which Richard T. Ely (first president of the American Economic Association) may be regarded as the founder. In 1922 he published a preliminary version of this thinking, entitled *Outline of Land Economics*. At the outset he expressed his puzzlement about the neglect of land by economists. "It is peculiar and not altogether easy to explain the fact that land as an economic concept, that is, as a requisite of production, sharing in the income of society—has received comparatively little attention" (p. 3). He notes the large literature on labor and capital, the other traditional factors of production, and then comments that his own work seems to be the first sustained analogous treatment of the land.

Some clue to the lack of attention to land as a factor of production can be found in Ely's treatment, especially the process of abstraction that goes on as he defines his task. He notes, first, that "*land,* as used by economists, means the forces of nature so far as they have economic significance." He then points out that land is studied by many disciplines so that the question for land economics is the distinctiveness of the economic approach. "What is it that marks out a field for land economics? It is the concept of property" (p. 3). In a footnote he comments that his original intention was to entitle the work, "Landed Property and the Rent of Land."

Although a considerable abstraction, not to say shift, has occurred in the move from "the forces of nature" to "landed property," the term "property" could still direct attention to the physical reality of what is owned. Ely makes it clear that this is not intended. "Economics in general is a science of human relationships and so is land economics as one of the major divisions of economics" (p. 4). The "property-idea" is that of "property-relations." The topics to be dealt with under the heading of "land economics" are "tenancy in city and country, price of land, single tax, public ownership, community ownership, the open range, large landholdings, conservation, the congestion of urban populations" (p. 4).

It seems that Ely has answered his own question as to why land is not given the same attention as the other factors of production. If "land" were really viewed by economists as "the forces of nature so far as they have economic significance," then considerable attention to "land" as a quite distinct element of great importance would be warranted. It would be not only a factor of production but also a precondition of the whole of economic life, as of life in general. The wild facts would be self-evidently important to economics. But when land has become a property-relation, distinct from other property relations in rather minor respects,

then it is merely one commodity among others. The "forces of nature," and therefore nature in general, have disappeared from view. Economics as a discipline floats free from the physical world.

Nevertheless, it is quite significant that even when "land" is abstracted to this extent, attention to the topic can sensitize one to issues normally ignored by economists. Conservation was included in the topics of 1922, and when Ely joined with George S. Wehrwein to publish *Land Economics* in 1940, they showed remarkable sensitivity to issues most Americans did not appreciate until much later. Although the bulk of the book deals with land as property and focuses on the property-relation, the authors are clear that the physical reality can be distinguished from this relation, and they demand attention to it in its own right. For this reason "land policies must be based upon the operation of nature's laws as well as upon the economic drives of man" (p. 25). This reference to the laws of nature contrasts with the near indifference to such laws common among economists. This concern for the physical world leads Ely and Wehrwein to notice an interaction between economic activity and nature that lies outside of economics as a whole. "Too often the 'conquest of nature' benefiting immediate generations has resulted in the 'conquest of man' by those natural forces operating into eternity." Since "man has become a geographical factor along with wind, water, and climate, changing the character of his environment and sometimes with more destructive speed than nature itself," land economics therefore "has to concern itself with the 'private' economic factors in land utilization but even more with the 'political economy' of the conservation, restoration, and augmentation of natural resources" (p. 27). Attention to the land seems to work for long-term views and to work against discounting effects on future generations.

It is disappointing to find, side by side with such statements, a much greater number of others to the effect that in the production of economic goods and services, "the earth is the inert and man the active factor" (p. 25), and "land in itself is not productive" (p. 50). These standard economic views rather than an awareness of the ecological destructiveness of the human economy govern the content of the book as a whole. Hence the economics put forth does not go far to encourage the restoration and augmentation of the land for which the authors call. Nevertheless, we could wish that contemporary economists as a whole would pay even as much attention to land as physical environment as Ely and Wehrwein did. Unfortunately, a glance through current issues of the journal that bears the same name as their book, *Land Economics,*

shows that even in this subdiscipline there are few traces of this side of Ely's legacy. Concern for physical reality and for nature has become ever more peripheral to land economics, and land economics has remained peripheral to economics in general.

Just as policies derived from a discipline that knows nothing of human community are destructive of that community, so policies derived from a discipline that knows nothing of the physical world are destructive of that world. The wild facts are in large part the consequence of that destructiveness. Economics needs to be rethought in terms of a more adequate model of land, just as much as it needs to be rethought in terms of a more adequate model of *Homo economicus*.

For "land" to represent the forces of nature in their economic significance is not new. Indeed, it is very old. What is new is for the forces of nature to be subsumed under the property-relation. The entire view of land changes when this subsumption occurs. In order to appreciate the richer alternatives that are available for thinking of land in economics, we propose to review briefly the primal vision of the land, especially as transmitted through the Jewish Scriptures. They have not lost their resonance or their relevance, and they bring the level of abstraction involved in modern economics into high relief.

Ancient Views of the Land

In typical instances of hunting and gathering peoples, the land is the giver of life and the source of all good. In modern terminology, it is *the* factor of production. But it is much more than that. The people belong to the land and reverence it and gratefully receive its bounty. The land includes all the plants and animals that share it with the people.

The land is also the place of the people. The reference is not to the continents but to that particular land that the people know. They are related through it to their ancestors and descendants. There is no concept of ownership of land. The land belongs to them as it belongs to all the animals who share it with them. More properly, they all belong together. Again, in modern terms, they constitute an ecosystem.

In this vision, the spirits or deities are local. They are related to features of the landscape or ancestral graves or special animals. The land itself may be worshiped as all-giving, and perhaps also as all-consuming, Mother.

Some of these themes are expressed in the poetry of New Mexico author Nancy Wood. Her deep concern with the cultural dilemma of the

Taos Indians is reflected in poems about their displacement from much of the land by Spanish, Mexican, and American settlers.

> All as it was in this place timeless.
> All as it was between the human soul and the earth.
> This land was the land
> Of our great waters
> The beating heart of nature flowing through time
> That we could not remember.
> This was our land.
> The land that provided everything good for my people.
> . . . . . .
> Then the land was taken from us.
> It is your land.
> Do you know how to speak to the land, my brother?
> Do you listen to what it tells you?
> Can you take from it no more than what you need?
> Can you keep its secrets to yourself?
> Sell the land, my brother?
> You might as well sell
> The sun, the moon, the stars.
>
> For there is no difference between
> The life of a man and the life
> Of all growing things.
> Who is to say if a man
> Shall not be a tree instead?
> We pray to all nature and do it no harm.
> These are our brothers
> All men and all trees.
> Some part of ourselves
> Is in earth and sky and everywhere.
>
> [from Wood, ed., 1972, *Hollering Sun*]

With the domestication of animals, other tendencies appeared. Pastoral nomads can experience the land as a place of wandering rather than dwelling. It remains important, but they are not part of the land in the same way as hunting and gathering people. The principle of action in nature may be associated with sun and rain. The land receives more than it gives. Human action assumes a larger role, and it may be understood more in relation to the heavenly deities than to the land.

With the domestication of plants and the agricultural revolution, people are more firmly tied to smaller units of land. As with hunters and gatherers the land assumes primacy, although sun and rain are also of great importance. Above all, attention is focused on fertility. The increase

that nature provides, transforming a seed into a plant that produces many seeds or bringing into being more and more domestic animals, is seen as the great miracle. Sexuality in general and human sexuality in particular take on religious importance as a symbol of fecundity.

Ancient views of land have been mediated most influentially to European civilization through the Jewish Scriptures. For the ancient Jews as for other ancient peoples land was a central category. Indeed, one may say that Jewish life and thought centered around the people (Israel), their God (Yahweh), and the land.[1] These are their three factors of production! They are relatively separate actors but have their meaning and full reality only in their interconnectedness. The people remember a mixed history of nomadic wandering and agricultural settlement in Egypt. The land, therefore, is not simply their self-evident place apart from which they have no collective existence. It was given them by Yahweh, and if they did not live rightly in the land, they could be exiled from it. Separation from the land was the supreme threat, and being able to dwell in the land forever was the supreme promise. Thus their dwelling in the land, the fulfillment of their hopes, was contingent on their relations both to the land and to their God.

The land was not an inert member of the triad. It bore fruits and gave good gifts. It was to be treated with respect and allowed to cease from work on the Sabbath. It could be described as mourning, or rejoicing, and even as vomiting the people as a result of their numerous sins. The land could be polluted by human sin and require cleansing.

The land was seen in general as the "inheritance" of Israel. This did not mean property in the modern sense. The land was entrusted to Israel as long as Israel kept the covenant with Yahweh and with the land. Further, the inheritance was personalized. Each family received its inheritance. It was responsible to keep this inheritance, and Yahweh held the community as a whole responsible for maintaining an order in which each family preserved and transmitted its inheritance. Stewardship comes closer than ownership to express this relation. But the maintenance of this widely distributed system of land rights proved extremely difficult, for some extended their holdings by buying up their neighbors' "inheritance," especially in times of crisis. Climaxing in the eighth century B.C.E., the urban elite turned agriculture from village

1. For much of this account we are indebted to Walter Brueggemann, *The Land* (Philadelphia: Fortress, 1977). The relation to economics is brought out more explicitly in Archer Torrey, *The Land and Biblical Economics* (New York: Henry George Institute, 1985).

subsistence to mono-cropping for export, forcing peasants to become day laborers on large estates instead of independent farmers. Much of the prophetic denunciation is directed against this violation of the covenant. The norm of a Jubilee year was asserted in which all land would revert to its original inheritors.[2]

The people understood themselves as "planted" in the land. Above all they "dwelt" there. They belonged to, or at least with, the land. They were the people of that land. It was home, beloved when they were there, longed for when they were away. Existence separated from the land was incomplete. To dwell in their inheritance forever, faithful to the covenant with Yahweh, was for them salvation.

But despite the depth of this relatedness to the land, this relation was penultimate, not ultimate. The people could exist apart from the land, and in such existence they were not separated from Yahweh. Yahweh took up abode in the land, but Yahweh was not bound to it. Yahweh could leave or even be driven out. There was also a more sophisticated tradition that held that Yahweh could not be, in this sense, localized at all.

The distinctive features of this Jewish view of the land arose out of the peculiar history of a people who had both nomadic and agricultural experience. Their view of Yahweh is more closely related to the nomadic experience; their view of the land was more closely related to the agricultural experience. Both views were modified in their mutual relations. The result was a rich literature that has provided the germ of most Western thought on the land, at least prior to the modern period.

The peculiar sense of intimate relation to a particular land combined with separability from it has been preserved by the Jews themselves. It is an important factor in world politics today. In Christendom the unity tended to fall apart. Beginning with the New Testament itself, and especially in the Gentile church, the intimacy of the relation to the particular land faded. Themes stating or at least implying separability from the land have dominated. The true home of the Christian is not any particular land but the coming realm of God or an otherworldly heaven itself. Christians are wanderers and pilgrims on the earth. Thus the aspects of the Jewish vision derived from their nomadic memories and their exilic experience were appropriated more than the agriculturalist love of the land. Yet Christians were generally (in premodern times) agriculturalists,

2. Martin L. Chaney has developed these points in detail. See his "Systematic Study of the Israelite Monarchy," in *Social Scientific Criticism of the Hebrew Bible and Its Social World*, ed. N. K. Gottwald, *Semeia* 37, pp. 53–76.

so that the love of the land remained a prominent Christian experience. Occasionally the two came into combination again as in the Puritan identification of the New World as the promised land. But the main themes of Christian sensibility expressed independence from the land.

One can trace in this movement from the Jewish to the Christian Scriptures, and within some lines of Christian thought, a tendency to accent the transcendence and objectification of land. The separability of human life from the land, in conjunction with the emphasis on the relation of the human being to God, have tended to deemphasize the importance of the land. These trends pave the way for the further objectifications and abstractions of modern philosophy and economics. But before we turn to this topic we should consider one aspect of the relation to the land not emphasized thus far, the relation to the living creatures with whom the land is shared by people. The Jewish view can best be seen in the first Creation story.

In this story, after the land is separated from the water, the earth brings forth vegetation, and water brings forth sea creatures, and God creates the birds and animals. At each stage God sees that what is created is good. Then, on the sixth day, God creates a man and a woman; only they are created in God's own image. Then God views the whole creation together and sees that it is "very good."

Translated into philosophical terms this means that all creatures have intrinsic value, and that the addition of the human species gives to the whole a special excellence. Existence in general, and especially life, are to be affirmed in themselves, not merely in relation to ends that transcend them. The goodness of the world in general cannot be understood simply as its value for human beings.

On the other hand, human beings are not merely one species among others. They are specifically authorized to have dominion over the earth and its plant and animal life. This means that all of these also function as means to human ends. Other living things thus function as both ends and means. But the fact that human beings may use other living things as means, especially as food, does not warrant their extermination, for they too are authorized to be fruitful and multiply. The right of human beings to use them does not supersede their right to a place in the world.

This double message of human fellow creaturehood with other living things, all of which are to flourish, and human dominance over them has been better preserved in Judaism than in Christianity. Both have tended to emphasize the latter point of dominance more than the sense

of joint participation in making up the excellence of creation. But Christianity has focused on the creation of humanity in the image of God as a basis for a more spiritualized understanding of salvation that applies only to human beings and hence reduces the remainder of creation to background for the story of Redemption. Until quite recently, only such eccentrics as St. Francis and Albert Schweitzer have stressed the intrinsic value of all created things and the community that human beings share with them.

Christian teaching did continue the biblical view that the land is ultimately God's and is to serve the common good. This was not an argument against private property, but only against its misuse. All economic decisions should serve the common good. Unfortunately, the Catholic church so allied itself with landed interests that its definitions of the common good lost credibility with the rising industrial classes, and this tradition has grown weak. Nevertheless, it is interesting to find it recurring occasionally in secular discussions, including those among economists. A particularly fine example can be found in John Stuart Mill's *Principles of Political Economy*. After describing the heartless treatment of tenants by landlords he states: "When landed property has placed itself upon this footing it ceases to be defensible, and the time has come for making some new arrangement of the matter. No man made the land. It is the original inheritance of the whole species. Its appropriation is wholly a question of general expediency. When private property in land is not expedient it is unjust. . . . The claim of the landowners to the land is altogether subordinate to the general policy of the state" (1973, pp. 232–33).

Land in Modern Philosophy and Economic Theory

Economics is often criticized for being materialistic. It is in fact materialistic in the sense that it sees human beings as intent on possession and consumption of goods, and it supports the satisfaction of these wants. But in a deeper, philosophical sense, it is much more allied to idealism. It neglects the land, and that means in general the physical basis of human existence. In this section we explore the movement of economic thought in this idealistic direction in tandem with that of modern philosophy.

Although "land" is not a technical term in philosophy, which has taken its categories more from the Greeks than from the Bible, modern philosophy's discussion of matter, or nature, and of the nonhuman

world generally has immediate and obvious implications for the view of the land.

In philosophy modernity began with Descartes. Although most philosophers disagree with Descartes in important respects, nevertheless, he has set the agenda for much of philosophy in the present day. Prior to Descartes, philosophy generally assumed as its starting point that the thinker is part of a larger world. The question of how people know this world was worked out in a context that assumed the existence of both the knower and the known. Descartes refounded philosophy on the basis of radical doubt. This meant that the question of whether anyone knows anything, and if so, how, became the starting point of philosophical inquiry.

Descartes' universal doubt quickly gave way to confidence in his own existence. He saw that if he doubted, then he existed. There could be no doubting without the doubter. What remained questionable is how one can get from the sheer fact of subjective existence to an objective world, remembering that the objective world includes the human body.

Descartes himself solved this problem through a form of the ontological argument for the existence of God. Having proved to his own satisfaction that his idea of perfection entailed a perfect being, he could argue that a perfect being would not allow him to be fundamentally deceived in his interpretation of sensory experience. Hence, in addition to the knowing subject or mental substance, he could be confident that there also exist objects, or material substances. As a result Descartes divided the world into two metaphysically distinct orders: mind and matter.

Few philosophers have followed Descartes in bringing in God to insure the reality of the material world, but his dualistic way of thinking has remained deeply influential in two respects. First, for much of the common sense of the modern world, the sharp distinction of subjects and objects has seemed evident and necessary, and there has been a strong tendency to identify them with mental and material substances. Second, with the exception of certain materialists, the primacy of the subject has remained the philosophical starting point.

When Descartes divided the world into mental subjects and material objects, he put animals entirely on the side of the latter. This implied that they were complex machines without subjective experience. Descartes argued as follows: "It seems reasonable since art copies Nature, and men can make various automata which move without thought, that Nature should produce its own automata, much more splendid than artificial ones. These natural automata are the animals" (Macey 1980, p. 76). Although many modern philosophers did not fully commit themselves to that position, the line of division that has remained for modern thought is between human beings—specifically, human beings as mental subjects—and everything else. This division has been treated as very fundamental, and in Descartes' case, as a metaphysical dualism. For ethical reflection this has meant that human enjoyment or virtue constitutes what is valuable in itself. Everything else is a means to that end.

It is evident that this Cartesian worldview has provided the context and assumptional matrix for economic thought. For economic theory, value is to be found solely in the satisfaction of human desires. The subjective theory of value has totally replaced earlier "real" theories of value that took land or labor as the locus of value. Since, following Descartes, only humans possess subjectivity, it follows that only humans can be the locus of value. The rest of nature is viewed as land or improvement or product. Land represents all natural resources and includes all the living things supported by the land, except for the labor expended in raising them. Labor would include the labor expended by human beings in raising the food the horse eats. Labor would not include any value attributable to the contribution of the horse's labor. For purposes of economics, the horse is treated, as with Descartes, as a machine. Its value is its value to human beings, determined finally by the market.

In short, the typical modern dualism reappears in economic theory from Adam Smith to the present. On the one side there are human beings, the satisfaction of whose wants is the single end of economic activity. On the other side there is everything else, all of which comes into consideration only as means to the end of satisfying human wants.

Although it is correct to characterize this as dualism in both Descartes and economic theory, it is important to see that the two types of beings are not given analogous roles. One exists for the other. The "other" is, of course, the human being. Accordingly, even more illuminating of modern thought than the label "dualism" is the label "anthropocentrism." Modern thought is anthropocentric through and through.

Despite his anthropocentrism, Descartes overcame his doubt about the fully objective reality of the material world. Similarly Adam Smith takes seriously the physical reality of "land" as one of the factors of production, but like matter it remains passive, its produce depending entirely on human labor. Since the time of Descartes and Smith there has been a strong tendency in Western thought to move further still with anthropocentrism. The result is called idealism.

The difficulty in affirming dualism when one begins with the human subject is that it is difficult to justify the move from the reality of the undoubted subject to the reality of the object. It has seemed that the world of the subject is limited to the contents of the subject's experience. Nevertheless common sense strongly affirms that these contents are given to the subject from without, even forced on the subject's experience. As long as this sense of being passive in sensory experience was not challenged, dualism reigned supreme in the modern sensibility, even though philosophers had difficulty in justifying it.

If Descartes originated modern philosophy, the greatest revolution within modern philosophy was effected by Immanuel Kant. At the beginning of the nineteenth century he captured the attention of the intellectual world by arguing that the human mind is far from passive in its experience. The mind is active in building up its world. In fact, anything we can speak of as a world at all is in some sense a product of the human mind. Although Kant posited an unknowable reality as the source of sensory experience, many subsequent philosophers dropped this in favor of a consistent idealism.

There is little direct connection between the abandonment of physical reality in the dominant philosophical tradition and the elimination of land from consideration in economics. But the parallelism deserves note. The intellectual climate of the nineteenth and twentieth centuries has been congenial to the shift of economic thought from attention to natural and empirical facts given to us in experience, to the products of the economist's mind. Thus a preoccupation with economic theory, models, and mathematical formulas expresses the direction encouraged by the shift of the modern mind from dualism to post-Kantian idealism. The shift of attention from land, labor, and capital to landlords, laborers, and capitalists, and then to rents, wages, and profits also coheres with the loss of interest in the physical world.

Economists are not to be criticized for having participated in the best thought of their time. They are, however, to be asked to share in the growing recognition of the limitations of the modern worldview in both its dualistic and idealistic versions. There are practical reasons today to take the reality of the physical world very seriously. For example, the threat of a nuclear war and accompanying destruction of most of the human race cannot well be understood in idealistic terms. We all know that such a war would make real changes in a real physical world independently of how people thought about it. Similarly, pollution of the air and rising sea levels appear to be quite independent of how people think

about them. Also, at a theoretical level, the evolutionary kinship of the human species with other species makes nonsense of metaphysical dualism and renders suspect all the conclusions drawn by ethicists from that dualism. There seems no way to take the evidence of science and of universal experience seriously without affirming the reality of the natural world and the place of the human being as a part of it. At a political level few would deny these points altogether. Yet idealistic theories underlie many of the academic disciplines and direct attention away from natural events in their own integrity. At times these theories lead scholars, including economists, to extreme statements.

For example, George Gilder writes: "The United States must overcome the materialistic fallacy: the illusion that resources and capital are essentially things, which can run out, rather than products of the human will and imagination which in freedom are inexhaustible." And then to make the point as clear as possible, he adds: "Because economies are governed by thoughts, they reflect not the laws of matter but the laws of mind" (Gilder 1981, p. 232). And Julian Simon has said, "You see, in the end copper and oil come out of our minds. That's really where they are" (1982, p. 207). These statements illustrate in hyperbolic fashion the fallacy of misplaced concreteness. Yet the views of these two economists are very influential in Washington. They are rarely criticized for their angelistic idealism by other economists.

The Disappearance of Land as a Factor of Production

Let us look now more closely at the virtual disappearance of land from its once prominent place in thinking about the economy. In agricultural societies the two factors of production universally evident are land and labor. The question was not whether both were necessary but how to conceive their relation. Sir William Petty (1623–87) is noted for his view that labor is the active principle of wealth and land is the passive principle. This emphasis continued in John Locke (1632–1704), who held that value is a function of the labor expended, and that it is this expenditure of labor that justifies private property. Indeed, whereas Petty did assign the role of "mother" to the land, Locke treats it as negligible as far as the economic order is concerned. Nature's gifts are equally there for all until labor has been applied to them.

The French physiocrats, on the other hand, saw land as the active source of wealth. Land works along with the laborer in production. Indeed, the surplus product is considered to result solely from the contri-

bution of land. Adam Smith, in a similar way, interpreted the landlord's rent as the result of the land's contribution to production. And the active contribution of land was taken up again by John Stuart Mill: "Nature, however, does more than supply materials; she also supplies powers. The matter of the globe is not an inert recipient of forms and properties impressed by human hands; it has active energies by which it co-operates with, and may even be used as a substitute for, labour" (1973, p. 23). "Labour, then, in the physical world is always and solely employed in putting objects in motion; the properties of matter, the laws of nature, do the rest" (1973, p. 25).

Later Alfred Marshall also spoke up for the positive contribution of nature. "In a sense there are only two agents of production, nature and man. But on the other hand man is himself largely formed by his surroundings, in which nature plays a great part" (1925, p. 139). Despite these occasional flashes of recognition that nature or land is a productive agent of fundamental importance, the actual course of economic thought followed Locke. Ricardo developed Locke's labor theory of value, denying a contribution by land to the determination of exchange value or price even in the case of agricultural commodities.

Karl Marx followed him in this regard. Thus the passivity of land was followed by its exclusion from any contribution to value. In reaction to Marx's use of the labor theory of value non-Marxist economists ceased to employ it. But they did not return to an analysis of the contribution of nature to production. On the contrary they sought to find the way in which subjective individual preferences, aggregated through the market, autonomously establish prices. In either case, land no longer contributes to value, and, seen as passive, it ceased to be significant in the analysis of production.

The American school that began with Alexander Hamilton drew the conclusion that land is a form of capital rather than a distinct factor in production. Henry C. Carey, in his *Principles of Political Economy* (1965, reprint), argued that the earth is only the material for machines. It represents the farmer's capital. This position was also held by Wilhelm von Hermann, who defined capital as a good that endures and yields an income. Land fits his definition. If land is just one form of capital alongside others, then a theory of the role of capital suffices, and no separate treatment of land is required. This theory reflects the widespread modern view that capital can substitute for land, and that consequently the goal of increasing capital can proceed without attention to what is physically happening to the land.

Some economists protested this trend. Marshall, with his view of land's active contribution to the economy, is one. He argued that "there is this difference between land and other agents of production, that from a social point of view land yields a permanent surplus, while perishable things made by man do not" (1925, p. 823).

The issue here is not merely theoretical, since theory is related to practice. When land is viewed as Marshall sees it, it is likely to be treated so that it does in fact yield an enduring increase. When land is treated as capital, its fertility can be depreciated as other forms of capital are depreciated. Marshall's view contains remnants of the ancient and biblical views of land. When land is subsumed under capital, the connection disappears. In today's world, however, it is frequently a gain to get land treated with the same respect as capital, rather than as inert, passive, indestructible building blocks.

Ricardo had also spoken of the indestructible features of land in distinguishing it from capital, and like Marshall he included its fertility. Subsequent economists, treating that fertility as capital, retained the point that there is still something indestructible about land—its extension. They came to call space "Ricardian land."

The end result of this story is that, despite many dissident voices, the discipline of economics has come to treat land as a mixture of space and expendable, or easily substitutable, capital. Both are treated as commodities, that is, as subject to exchange in the marketplace and as having their value determined exclusively in this exchange. Land is no longer a factor of production in any important sense. It is relegated to the level of a "residual" in econometric models that estimate the relative roles of capital and labor in production.

Even when it is regarded as space and expendable capital one might expect some attention to be paid to the land's physical properties. But in general, economics abstracts from the physical characteristics of the commodities, attending only to their price. Insofar as different locations or other characteristics affect price, the characteristic is briefly noted. But economists want as far as possible to abstract from the physically differentiated character of the commodities they treat. The preferred idea has been that, while fertility of the soil varies and mines vary in the richness of their ores, all matter and energy is potentially useful, given the right technology. Witness the view of Barnett and Morse: "Advances in fundamental science have made it possible to take advantage of the uniformity of matter/energy—a uniformity that makes it feasible, without preassignable limit, to escape the quantitative constraints imposed

by the character of the earth's crust. . . . Science, by making the resource base more homogeneous, erases the restrictions once thought to reside in the lack of homogeneity. In a neo-Ricardian world, it seems, the particular resources with which one starts increasingly become a matter of indifference. The reservation of particular resources for later use, therefore, may contribute little to the welfare of future generations" (Barnett and Morse 1963, p. 11).

Although such an explicit statement is rare, the assumptions it articulates play a central role in economic theory. This is visible in the standard analytical representation of production in terms of a Cobb-Douglas type of production function. Even when it includes resources (i.e., "land") it permits these to approach zero while output remains constant, as long as capital or labor increases by a compensatory amount. The fact that resources may only approach zero, but cannot actually reach zero, is taken in some quarters as a great concession to their importance (Stiglitz 1979).

There is a further contradiction that results from applying marginal analysis too single-mindedly to a confused definition of land. This is that the notion of marginal product does not really make sense for capital or even labor once land is understood to include the flow of resources from nature. Marginal product only makes sense for resources. To calculate the marginal product of one factor requires holding the other factors constant. If labor and capital are held constant and the resource flow is increased, then it is possible to produce more output by working harder or more efficiently or for longer hours. But if the flow of resource inputs is held constant, then there is nothing from which more output could be made, not even by working harder, more efficiently, or for longer hours. The law of conservation of matter-energy forbids increasing material output when material input (resources) is held constant. And to calculate marginal productivity of capital or labor requires holding the resource flow constant. Of course, the fixed flow of resources may include some waste that could be salvaged for use by additional labor or capital, but, once that bit of slack is tightened up, the marginal products of capital and labor must be zero as long as resource inputs are held constant. The way economists have avoided this contradiction is to drop resources out of the analysis completely and substitute "Ricardian land," by which they simply mean space. Only then can one increase total product by increasing labor or capital while land is held constant. Even though space is constant the flow of resources through that constant space into production remains variable and outside the analysis. But after having defined marginal product of capital (or labor) on the assumption of constant Ricardian land, economists frequently slip back to the resource definition of land without realizing that they are contradicting the first law of thermodynamics by assuming that constant resource inputs will permit an increasing physical output. Marginal products for capital and labor must be zero if resource flows are held constant. It is devastating for the marginalist theory of production and distribution if the marginal products of labor and capital are zero, as that would imply a zero wage rate and a zero interest rate! Therefore the theory requires that resources be left out of the picture, or remain a part of the invisible, passive background, like air, and that land be reduced to space. (For a historical analysis of this point see Christensen, 1989.)

In these examples the passivity of land is taken to its extreme limit. Even its differentiated character that makes some materials better adapted to some purposes loses significance. Land is matter in the strict philosophical sense, pure potential to be formed by labor and capital, or in Cartesian terms, it is extended substance. Since all space on the earth's surface is occupied by some matter, Ricardian space alone requires consideration.

There can be little doubt that land is characterized by space and by exploitable resources such as soil and minerals. There is little doubt that economic practice increasingly treats land in this way. But there can also be little doubt that this model of land is highly abstract in comparison with the full reality of land in the way it was understood in the premodern period. The question is whether the abstractions are helpful and whether they direct attention and energy in the best ways as they shape policy and practice. Clearly no one concerned with the wild facts can think so.

Rent

Long before land had been transformed into Ricardian space and usable capital, the attention of economists had been directed away from land as a factor of production to rents paid for the use of land as a factor in price and profits. This was analogous to the shift of attention from labor to wages. Money is the common denominator for land and labor as well as capital. It is the commodity of money that makes possible the quantification of economics as an exact, deductive science. Features of this world that cannot be assigned a monetary price finally disappear from

the present forms of economic science. For economics as a whole the question is not the disappearance of land as a physical reality—that is inevitable once basic decisions have been made about the nature of economics—it is the role and interpretation of rent.

The focus of attention on the rent of land, rather than on the land itself, is present already in Adam Smith. He distinguished the "produce of the land" into two types according to whether it always or only sometimes affords rent. Still, in his presentation, the land functions as a contributor to this production.

It is with Ricardo's systematic development of the labor theory of value that rent is explained entirely in terms of labor. Smith had held that before land came to be privately owned, the relative exchange value of things depended entirely on the labor involved in procuring or making them, but that once land became scarce rents derived from it added to exchange value. Ricardo held, in contrast, that rent is an effect and not a cause of relative values, these still being determined by labor. Ricardo saw capital as congealed or stored-up labor (Haney 1949, pp. 294–95). Rent, according to Ricardo, is "that portion of the produce of the earth which is paid to the landlord for the use of the original and indestructible powers of the soil." It "invariably proceeds from the employment of an additional quantity of labour with a proportionally less return" (p. 55) (1951, pp. 47, 55).

After quoting these passages Lewis H. Haney proceeds to summarize the argument:

> "Accordingly, the position of landlord may be discovered by considering the successive steps by which the land of a country is brought under cultivation. So long as the best land is abundant and every one can have it by taking possession, it is manifest that there can be no such thing as rent. As population grows and the needs of the people become greater, however, the best land is gradually taken up until none remains. It is now necessary to have recourse to land of an inferior quality, which may be called land of the second class. Now those who have already taken possession of land of the first class have a manifest advantage over those who are obliged to take up land of the second class. Land of the second class must pay the wages of labor and the ordinary profits of capital, or it would not be cultivated. But land of the first class does this and something more. The something more constitutes the rent of the landlord; the farmer can give him so much and still receive the usual rate of profits and pay the wages of labor. [p. 295]

The implication of this analysis is clear. The price of agricultural products, like those of industrial products, is determined by labor. But that did not render rent unimportant. Rent constituted the income of

the landlord class which was, in Ricardo's day, a major segment of society. Economics written from its point of view would not neglect rent!

But economics was not written from the point of view of landlords. The discipline of economics was oriented to industry. The interest was in capital and wages. If wages determine the value of the produce of the land as well as of industry, then rent, and therefore the income of the landlords as a class, was placed in an anomalous role. It was "unearned income." This analysis itself was an ideological weapon in the power struggle between the rising capitalist and the entrenched landlord. The importance of rent in economics was tied to the importance of the landlord class in society, with the economists themselves contributing ideologically to the weakening of that class.

This means that the decline in importance of land and resources, now abstracted from as rent, has much to do with the political demise of the landlord class. In any agrarian economy the landlord is very powerful. It is natural to see biological growth as the source of net product, and to attribute that net product to the productivity of land, as did the physiocrats. But land is productive regardless of who owns it. Ricardo's theoretical analysis made clear that the rent of land differs from all other income as "unearned." This view gave theoretical basis for the resentment always likely to be felt toward the landlord by those who work for a living. With the rise of industrialism competition arose between landlord and capitalist to hire labor. Also capitalists favored cheap food (low wages), whereas landlords wanted high prices for food and other products of the land, including natural resources. Capitalists, of course, preferred cheap resources. With the further development of industrialism capitalists became dominant and industrial labor began to organize in unions for protection. Thus capital became the dominant class, followed by organized industrial labor, with landlords, the formerly dominant class, a distant third.

Capital and labor are in direct conflict regarding wages, but in agreement in favoring low prices for food and resources. The major social conflict of the industrial era, capital versus labor, was softened by sacrificing the interests of the landlords. Of course, if food and resource prices fell too low, then land would be taken out of production, supply would fall, and prices would go back up. This result was prevented by the capitalization of agriculture, which increased land productivity and kept supply high and prices low without at the same time creating a competing demand for labor. In fact, labor was pushed out of agriculture, exerting a downward pressure on industrial wages.

In sum, the class that had an interest in high resource prices lost

power relative to the two classes that had an interest in low resource prices. The fact that capital and labor were in basic conflict with each other only worked to the further disadvantage of the landlord class. The socially dangerous labor-capital conflict was eased by a policy of lower resource and food prices at the expense of landlords. Governments are frequently the largest landowners by far, but have not performed the landlord's function of keeping resource prices high. On the contrary, governments have usually followed a low price policy for resources precisely in the interests of fostering growth and buying peace between labor and capital, at the expense not only of landlords, but also of future generations.

To see the immense long-run economic significance of this realignment of class power, it is necessary to remember an elementary economic principle: efficiency requires that we maximize the productivity of the scarcest factor. Which is the scarcest factor over the long run, land (resources), labor, or capital? Labor is reproducible, given resources and food; capital is reproducible, given resources and labor; but resources are a different matter. Some, especially the minerals and fossil fuels most needed by industry, are not reproducible on human time scales. And even renewable resources can be depleted if exploited beyond reproductive limits. It would seem, therefore, that in the long run resources are the scarcest factor. It is not for nothing that the classical economists called land the primary factor of production. Even in the Ricardian sense of space, land is bound to increase in scarcity as population grows. We are forced to economize on the scarcest factor by its high price. Whatever the injustices entailed by the unearned nature of landlord's rent, the efforts of that class to keep resource prices high did have the effect of leading society to maximize returns to the scarcest factor. The demise of the landlord and the ascendancy of the capitalist led to pursuit of low resource prices and to technologies and policies that maximized the use and minimized the marginal productivity of resources in order to raise the productivity and incomes of labor and capital, especially capital. From a long-run perspective, minimizing the productivity of the scarcest factor is exactly the opposite of what should be done.

Our argument is not that Ricardo's analysis of rent is an error or that a decline of power of the landlord class should have been avoided. Easing labor-capital conflict by sacrificing landlord interests may have been the best solution, given the concrete situation at various times and places. We are not advocating reinstituting the dominance of a class of

landlords. We too think it undesirable for unearned income to play so large a role in the economy. But for us this raises anew the question of whether the shift of attention from land to rent has not left out of account much that is of importance. And to abandon interest in land because one wants to reduce the role of rent in the economy shows how widespread the fallacy of misplaced concreteness has been.