

THE
ECONOMY
OF
CITIES

JANE JACOBS

Author of

THE DEATH AND LIFE
OF GREAT AMERICAN CITIES

of the efforts have been left in pictures. A zoologist engaged in modern attempts to domesticate wild African animals for meat, R. C. Bigalke of the McGregor Memorial Museum in Kimberley, notes that during early Old Kingdom times, "Hyenas were tied up and forced until fat enough for slaughter; pelicans were kept to lay eggs; mongooses were tamed to kill rats and mice in the granaries; and there is a suggestion that Dorcas gazelles were herded in flocks. Pictures also show ibex and two of the large kinds of antelope, addax and oryx, stabled and wearing collars." The ass and the common house cat were domesticated in the ancient cities of the Nile; they are "city animals," distributed into the rural world.

Both in the past and today, then, the separation commonly made, dividing city commerce and industry from rural agriculture, is artificial and imaginary. The two do not come down two different lines of descent. Rural work—whether that work is manufacturing brassieres or growing food—is city work transplanted.

A Theory of City Origins of the First Agriculture

The logical inference is that in prehistoric times, also, agriculture and animal husbandry arose in cities. But if this is so, then cities must have preceded agriculture. To imagine how this could occur, and how grain culture and domestication of animals could have emerged in pre-agricultural cities of hunters, let us try to imagine such a city. I am choosing to imagine for the purpose a city I shall call New Obsidian and I am pretending that it is the center of a large trade in obsidian, the tough, black, natural glass produced by some volcanoes. The city is located on the Anatolian plateau of Turkey.

There are two reasons for this choice. First, the ruins of a city, Çatal Hüyük, that might well have been the successor to my imaginary New Obsidian, have been found

by a British archeologist, James Mellaart, and are beautifully described and illustrated in his book, *Çatal Hüyük*. Thus we have the advantage of seeing how our imaginary city developed later. To put it the other way around, the New Obsidian we are going to imagine is the precursor to a known ruin and so is less difficult to imagine than a city entirely made up. The second reason for my choice is that obsidian was the most important industrial material traded in the part of the world where scholars believe wheat and barley culture first arose, although it was by no means the only industrial material traded there. Thus a city in which obsidian trade centered is a logical choice as a pre-agricultural metropolis. To be sure, an equally logical choice might be a center of the copper industry in the Caucasus or the Carpathians during the same period, or a coast city that had developed a trade in its shells. But New Obsidian will serve as a suitable candidate to explain the principles.

While the city is imaginary, I shall be strict and unfaithful in describing its economy. I shall allow to New Obsidian only the same economic processes that I have found operating in cities of our own and historical times.

New Obsidian, although it thrives on obsidian trade, is not located at one of the several volcanoes on the Anatolian plateau from which the black glass comes. It is at least a score of miles away from the nearest volcano of the group, and probably farther. This is because the Upper Paleolithic hunting tribes who controlled the volcanoes when the trade began would not permit strangers near the seat of their splendid treasure. In the distant past, they themselves had wrested control of the obsidian-bearing territory from predecessors less wily than they. They did not risk a repetition of this conquest.

Thus, since at least 9,000 B.C., and possibly earlier, the trading of the local obsidian had taken place by custom in the territory of a neighboring hunting group who had become regular customers for the obsidian and subse-

quently, go-betweens in the trade with more distant hunting peoples. It is the settlement of this group that has become the little city of New Obsidian.

In 8,500 B.C., New Obsidian's population numbers about two thousand persons. It is an amalgam of the original people of the settlement and of the obsidian owning tribes, much of whose population is now settled within the city because of the trade and the various kinds of work connected with it. A small outlying population, to be sure, still works at the volcanoes and patrols the territory around them. Every day, parties from New Obsidian traverse the route between, bringing down treasure. The people of the city are wonderfully skilled at crafts and will become still more so because of the opportunity to specialize. The city has a peculiar religion because not one, but several, tribal deities are respected, officially celebrated and depended upon; these deities have become amalgamated like the population itself.

The system of trade that prevails runs this way: The initiative is taken by the people who want to buy something. Traveling salesmen have not yet appeared on the scene; the traders, rather, regard themselves, and are regarded as, traveling purchasing agents. Undoubtedly, they take trade goods of their own to the place of purchase, but this is used like money to buy whatever it is they came for. Thus, the traders who come to New Obsidian from greater and greater distances come there purposely to get obsidian, not to get rid of something else. For the most part, the barter goods they bring consist of the ordinary produce of their hunting territories. When the New Obsidian people want special treasures like copper, shells or pigments that they themselves do not find in their territory, parties of their own traders go forth to get these things from other settlements. With them they take obsidian, as if it were money.

In this way, settlements that possess unusual treasures—copper fine shells, pigments—have become minor

trading centers for obsidian too. They exchange with nearby hunting tribes some of the obsidian that has been brought to them in barter and are paid in ordinary hunting produce. And New Obsidian, similarly, is a regional trading center for other rare goods besides obsidian.

New Obsidian, in this fashion, has become a "depot" settlement as well as a "production" settlement. It has two kinds of major export work, not one. Obsidian, of course, is one export. The other export is a service: the service of obtaining, handling and trading goods that are brought in from outside and are destined for secondary customers who also come from outside.

The economy of New Obsidian divides into an export-import economy on the one hand, and a local or internal economy on the other. But these two major divisions of the settlement's economy are not static. As time passes, New Obsidian adds many new exports to those first two, and all the new exports come out of the city's own local economy. For example, the excellently manufactured hide bags in which obsidian is carried down from its sources are sometimes bartered to hunters or traders from other settlements who have come to purchase obsidian but, after seeing the bags, wish to carry their obsidian back in one. Fine, finished obsidian knives, arrowheads, spearheads and mirrors of the kind that the workers in New Obsidian produce for their own people are also coveted by those who come for raw obsidian. The potent religion of prospering New Obsidian becomes an object of trade too; its common local talismans are bought. Trinkets of personal dress also go into the export trade.

A lot of copying goes on among the major trading settlements. For a while, New Obsidian sold quite a few of the hide bags, but then craftsmen in the copper- and pigment-trading settlements began copying them. Meanwhile, in New Obsidian, craftsmen began copying some of the imports that were popular there: strong, elegant little baskets occasionally imported from a settlement that traded red

on which they trespass. They travel swiftly without dawdling, but they are usually hungry when they reach home. In New Obsidian the buildings are made of timber and adobe; later in the millennium there will also be buildings made of shaped mud bricks. The "center" or barter space of the little city is physically on the edge where the routes join and approach the settlement. As the city has grown, this space has been kept clear. To its rear, the city slowly grows larger. On the route side of the barter square, the alien traders make their camps. These have become permanent abodes although their residents are transient. In the barter space, the two worlds meet. The square is thus the only "open space" in the city itself, left open originally because what has since become a busy meeting and trading spot was at first a space of separation, deliberately kept empty. The barter space, or city square as it has become, is on the side of the city that faces toward the volcanoes. The reason for its location is that in the beginning here was where the original New Obsidian people traded with the volcano owners. When neighboring tribes began bartering at the settlement too, they used the already established barter point. For obvious reasons, storehouses of treasure are not at the barter square. But many workshops are squeezed among the buildings around it, especially those using materials of little intrinsic value.

To understand why New Obsidian has become a trading center of such importance, the goal of people from great distances, it is necessary to understand the enormous value of obsidian to hunters. Obsidian is not merely a substance that catches the eye or carries prestige; it is a vital production material. Once possessed, it is regarded as a necessity, both by the hunters in every little trading city and by the rural hunting tribesmen. Obsidian makes the sharpest cutting tools to be had. We get a hint of what a material like this means to the Middle Eastern hunters

oher, and carved wooden boxes from a settlement whose major trade was in fossil oyster shells. By the time the minor work of making hide bags for export had somewhat dropped off in New Obsidian, the little city had already developed a small, compensatory export trade in the imitated baskets and boxes.

The people of New Obsidian, the people of other major settlements, and the people of all the small and ordinary hunting settlements that lie between the major trade centers fiercely resent and try to repel encroachments upon their own hunting territories. Exceptions are made solely for trespass to reach trading centers. Thus the routes to New Obsidian from afar cross the territories of many, many hunting groups. These routes ran, at first, through the territories closest to the city and then extended outward as people farther away became customers, and then peoples beyond those. As the range of customers extended outward, so did the routes to New Obsidian. Linked to routes extended from other cities, the paths to New Obsidian help form a network that, by the time of Çatal Hüyük, will stretch almost two thousand miles from east to west.

A peace of the routes was early established. This was possible because trespass always ran through the territory of a group that was already being served by the trade. Any people that shut off the routes or that robbed and killed traders was itself denied obsidian, and moreover was fought by a coalition of warriors from the nearest city and from nearby hunting people who used the trade routes.

The resting and watering points used by trading parties along the routes have become traditional. They are spots of total sanctuary, protected powerfully under the city's religious code. These places always have a spring or other source of water and it is under the same protection. But there are no hotels. Traders eat sparsely on their journeys and carry their own food. They do not live off the land

and craftsmen ten thousand years ago by considering a comment concerning modern knives in Peter Freuchen's *Book of the Eskimos*:

In Committee Bay I have met Eskimos who had no knives. The only cutting instruments they had were made of old metal straps from barrels. For flensing they used sharp stones or knives made of bone. They were walrus hunters, and it would take them days to flense and cut up one single walrus. While they worked with their miserable tools hundreds of walrus would pass by their camp. If they had had steel knives, as they do now, the whole job could be done in half an hour and they could get out again while the hunting was still good and maybe get a whole winter's supply in a day or two.

Obsidian is not steel, but it is the nearest thing to it in the world of New Obsidian.

The food of New Obsidian is derived in two ways. Part of it comes from the old hunting and gathering territory—which is still hunted, foraged and patrolled as diligently as it formerly was when the people were solely hunters and gatherers—and from the territories of the volcano-owning groups whose headquarters are now also at New Obsidian. But a large proportion of the food is imported from foreign hunting territories. This is food that is traded at the barter square for obsidian and for other exports of the city. Food is the customary goods brought by customers who do not pay in copper, shells, pigments or other unusual treasures. Wild food of the right kind commands a good exchange. In effect, New Obsidian has thus enormously enlarged its hunting territory by drawing, through trade, upon the produce of scores of hunting territories.

The right kind of wild food to bring to the barter square is nonperishable. Except in times of great shortage and unusual hunger when anything is welcome, only nonperishable food is accepted. There are two reasons for this. First, unless the customers are from territories very nearby, nonperishable food stands the trip to the

city best. Second and more important, the people of New Obsidian like to store the food and mete it out rationally rather than gorge upon it and perhaps go hungry later. Thus the imported food consists overwhelmingly of live animals and hard seeds. In this New Obsidian resembles all pre-agricultural settlements that import wild food.

Because of New Obsidian's unusually voluminous and extensive trade, large quantities of live animals and seeds flow into the city. The animals are trussed up or carried in pole cages if they are dangerous. They are hobbled with fiber rope and alternately carried and driven on their own feet if they are not dangerous. Nonperishable plant food is easier to handle than animals, and traders carrying it can travel more swiftly. Thus, especially from the greater distances, beans, nuts and edible grass seeds pour into New Obsidian.

The imported food promptly enters New Obsidian's local economy and there it comes under the custody of local workers who specialize in its protection, storage and distribution. They are, in effect, stewards: stewards of wild animals and stewards of edible seeds. Consider, first, the duties of the animal stewards. In principle, their work is the not very difficult task of keeping the animals alive until it is time to slaughter them. This does, however, require judgment. The first animals chosen for slaughter are those that are either the hardest to feed or the most troublesome to manage, or both. Most carnivores fall into one or both of these categories and they are eaten very soon after their arrival in New Obsidian. The craftsmen get the pelts and other by-products. Animals that can live on grass are removed last from the natural refrigerator of life. And among the grass-eating animals, the females, being the less rambunctious, are kept longest. Sometimes they give birth to young before their time of slaughter comes; and when this happens there is, of course, extra wild meat and extra pelts. The

animal stewards of New Obsidian, with their unusually large supplies of meat to pick and choose among, make it a practice to save these docile breeders whenever they can. They have no conception of animal domestication, nor of categories of animals that can or cannot be domesticated. The stewards are intelligent men, and are fully capable of solving problems and of catching insights from experience. But experience has not provided them yet with any idea that can be called "trying to domesticate animals." They are simply trying to manage the city's wild food imports to the best of their abilities.

The only reason that second, third or fourth generation captives live long enough to breed yet another generation is that they happen to be the easiest to keep during times of plenty. Indeed, over and over, third and fourth generation captives are killed off without a qualm if the food is needed.

But the stewards make an effort to keep fresh meat always on hand, and, in particular, always to have some for the happy and exciting occasion when a party of New Obsidian traders returns from afar, weary, hungry and eager for welcome. And eventually, the stewards manage to keep fresh meat on hand permanently. They come in this way to possess, and to protect most carefully, what we would call breeding stock. But such animals mingle with imported wild stock that will not harm them, including different varieties of their own species. And among the offspring those that stand captivity best are, by definition, the best survivors and best meat producers on the forage at hand. Among these, the most docile are always kept by preference.

In New Obsidian, it so happens, the animal stewards concentrate especially upon saving and multiplying sheep—mainly because sheep meet the requirements of convenient maintenance and their meat is as well liked as any. Also, the craftsmen particularly value their pelts. In another little city with which New Obsidian trades,

imported wild goats are being kept by preference because they thrive on poor provender. In still another, from which New Obsidian buys copper, wild cattle are being kept because the females are sufficiently docile and because the craftsmen regard the multiplication of horn to be especially desirable. Far in the western part of the trading belt, wild sows are being kept by preference because they can be pastured in forests and because they yield such splendidly large litters.

The seed stewards of New Obsidian have no reason to prefer saving one kind of barter seed over another, and they do not do so. The dry seeds taken in trade are all mingled together in storage and are also eaten as mixtures. Seeds of many, many different kinds of wild grasses flow into the city from wet soils and dry, from sandy soils and loamy, from highlands and from valleys, from riverbanks and from forest glades. They come from the territories of scores of tribes who do not harvest in one another's territories except during war and raids—when the raiders eat quickly what they have seized. But here in New Obsidian, the world's best market for edible wild seeds, the seeds flow together for storage.

Seeds that have never before been juxtaposed are tumbled into baskets and bins. Husked, pounded and cooked, they are often further jumbled with peas, lentils and nut meats.*

When seeds remain after the winter, they are used for wild patch sowing, a practice not productive of much food; it just makes gathering wild seeds more convenient.

*We have today a distant equivalent of such food called by the trade name Pioneer Porridge, which I sometimes feed my family. It is a coarse mixture of half a dozen different whole grains, and the recipes on the bag recommend mixing the grains with beans and nuts; the barter seeds brought into New Obsidian would have been used for wild versions of just such dishes. It is food that sticks to your ribs, and it tastes good.

ient In and around the barter space, around the storage bins within the city, and in the yards where women husk and pound and carry seed to and from the household bins, some seeds spill. Whether spill sown, patch sown, or sown by little predators—rats, mice and birds—these plants cross in unprecedented combinations. It is no problem to get grain crosses in New Obsidian, or crossed beans and peas either. Quite the contrary; crosses cannot be avoided.

The crosses and hybrids do not go unobserved. They are seen, in fact, by people who are experts at recognizing the varieties and estimating the worth of barter seeds, and who are well aware that some of these city seeds are new. Mutations occur no more commonly than they would in the wild, but they are not unnoticed either, as they most likely would be in the wild; nor do occasional batches of mutant seeds brought in barter go unnoticed. But crosses, hybrids and the rare mutants are not deliberately put to use in selective breeding.

Barter-seed stewards do not have custody of locally grown seeds, no more than the stewards of imported animals have custody of meat killed by the hunters of New Obsidian itself. It is not the seed stewards who make the first selections of new grain plants. Some of the householders of New Obsidian take this step, and they do it at first inadvertently. Selection happens because some patches of sown seeds yield much more heavily than other patches do. The particular household bins filled from the lucky patches are, more often than not, the bins with seed left for sowing, in years when seed is saved for that purpose at all.

The unprecedented differentials in yields from New Obsidian's best and poorest seed patches lead to an arrangement formerly unheard of: some people *within* the city trade seeds to others. That is, they make a business of handing out seeds in return for trinkets. Possibly this

trade is confined to the women. It is not as radical an arrangement as their ancestors would probably have thought it, because the people inside the city who engage in this practice are modeling their transactions upon the barter that has long gone on in the city square.

Owing to this local dealing in seeds from patches that yield most heavily, all the grain grown in New Obsidian eventually yields heavily in comparison with wild grains. The people of the city do not really know why their grain is "the best," but they know that it is. And in the second stage of the process, selection becomes deliberate and conscious. The choices made now are purposeful, and they are made among various strains of already cultivated crosses, and their crosses, mutants and hybrids.

It takes many generations—not just of wheat and barley but of people—to differentiate the New Obsidian seeds into sophisticated cultivated grains. But it is only under the following conditions that the thing could have happened at all:

1. Seeds that normally do not grow together must come together nevertheless, frequently and consistently over considerable periods of time.
2. In that same place, variants must consistently be under the informed, close observation of people able to act relevantly in response to what they see.
3. That same place must be well secured against food shortages so that in time the seed grain can become sacrosanct; otherwise the whole process of selective breeding will be repeatedly aborted before it can amount to anything. In short, prosperity is a prerequisite. Although time is necessary, time by itself does not bestow cultivated grains on New Obsidian.

Gradually, New Obsidian grows more and more of its own meat and grain but it does not, as a consequence, wallow in unwanted surpluses of imported food. First, the very practice of growing foods in new ways requires

new tools and more industrial materials. The population of New Obsidian grows and so does the work to be done in New Obsidian.

The city's total food supply is made up of its own territorial yield of wild animals and plants, its imports of wild animals and seeds, and its new home-grown meats and grains. The total increases but the imports decrease as the new city-made food greatly increases. (The city's own traditional hunting territory probably yields about the same amount as in the past.) The city, in short, is now supplying itself with some of the goods that it formerly had to import. In principle, this is not much different from importing baskets and then manufacturing them locally so they need no longer be imported. Since New Obsidian had formerly imported so much wild food—in comparison to baskets or boxes, say—the substituted local production makes a big difference in the city's economy.

In place of unneeded food imports, New Obsidian can import other things—a lot of other things. The effect is as if the city's imports have increased enormously, although they have not. The city, instead, has shifted its imports from one kind of goods to other kinds. This change radically changes the economies of the people with whom New Obsidian trades. Now people from ordinary hunting tribes who come for obsidian find that ordinary industrial raw materials from their own territories—furs, hides, bundles of rushes, fibers and horn—are much welcomed in barter, while pouches of grass seeds and exhausted, scrawny live animals do not command the obsidian they once did.

Now too the traders of the city itself go forth ever more frequently to points ever more distant in search of exotic materials for the city's craftsmen. And the things that the craftsmen make of the new wealth of materials pouring in amount to an explosion of city wealth, an explosion of new kinds of work, an explosion of new exports, and an explosion in the very size of the city.

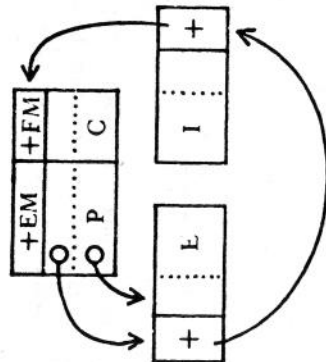
The work to be done and the population both increase rapidly—so rapidly that some people from outlying tribes become permanent residents of the city too. Their hands are needed. New Obsidian has experienced a momentous economic change peculiar to cities: explosive growth owing to local production of goods that were formerly imported and to a consequent shift of imports.

The traders of New Obsidian, when they go off on their trips, take along New Obsidian food to sustain themselves. Sometimes they bring back a strange animal, or a bit of promising foreign seed. And the traders of other little cities who come to New Obsidian sometimes take back food with them and tell what they have seen in the metropolis. Thus, the first spread of the new grains and animals is from city to city. The rural world is still a world in which wild food and other wild things are hunted and gathered. The cultivation of plants and animals is, as yet, only city work. It is duplicated, as yet, only by other city people, not by the hunters of ordinary settlements.

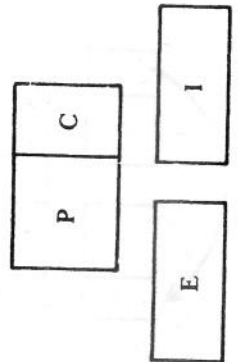
The Earliest City Yet Found

We need not merely imagine what a city like New Obsidian was like after it had replaced a major import and grown explosively, for Çatal Hüyük, the city found by Mellaart in Anatolia, had, I suspect, an economic history behind it like that of imaginary New Obsidian. Çatal Hüyük ("ancient mound at Çatal") was found while its discoverer, Mellaart, was actually looking for nothing more than a village. He had already unearthed a late Neolithic farming village that had been established in about 6,000 B.C., its culture already fully developed, upon the older site of a long abandoned pre-pottery settlement. Mellaart was seeking the parent culture of this farming village. He assumed it would be found in another village, older of course and more primitive. Among some two hundred possible mounds to explore,

Because of the increased numbers and diversity of organizations supplying goods and services to the city's already increased export work, the same process is even more likely to happen again. More local suppliers of producers' goods and services take to exporting their own work:

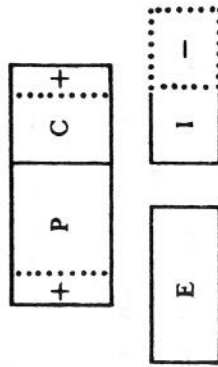


If this process continues vigorously, the net effect (subtracting any losses of older exports) is a consistent growth in both the volume and the variety of the young city's exports, accompanied by great growth in the variety and numbers of local suppliers of producers' goods and services and also growth of local consumer goods and services.

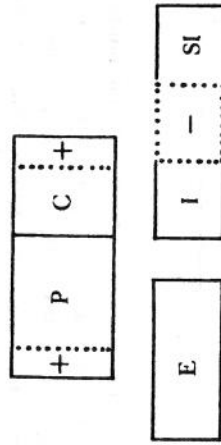


II *The Import-Replacing Process, Diagrammed*

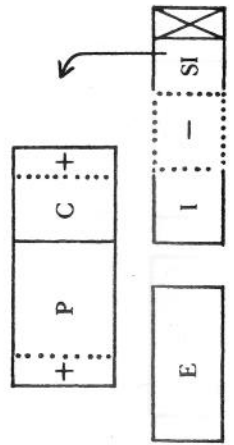
As explained in Chapter Five, after a city has built up a considerable volume and variety of imports, it becomes capable of replacing many of those imports, that is, producing them locally. For the sake of simplicity, let us assume that the city's volume of exports remains the same while an episode of import replacing is occurring. Let us use, as our diagrammatic example, the young city previously pictured, which is now earning a sizable quantity and diversity of imports and is about to replace half of this volume of imports with the same things, locally produced. We can think of this replacement work as a transfer of goods and services from the import block into the two blocks of the local economy. What is added to the local economy is subtracted from the imports:



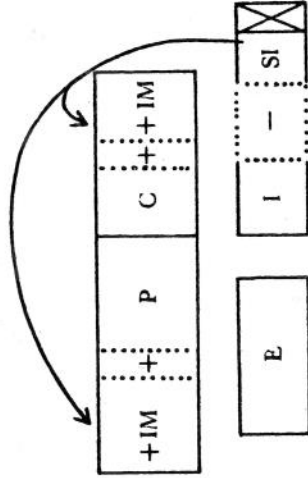
The part of the import block that had previously been occupied by those goods and services is now indicated by a dotted line. But of course the city is still earning as many imports as it would have, had this transfer not occurred. It is thus able to import other things, in place of those now locally produced. It has only shifted the composition of its imports. Therefore, beside the portion of the import block we have left vacant, let us add a new block of shifted imports (SI):



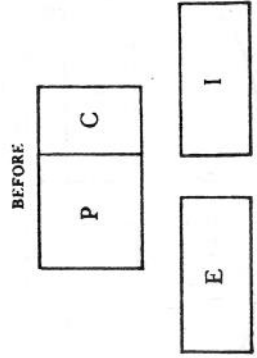
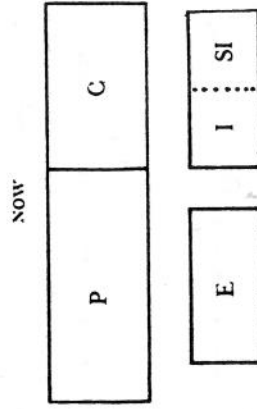
Some of these new, shifted imports must be incorporated into the locally made goods and services that were formerly imported. So let us cross out (X) that portion of shifted imports. The rest are, in effect, "extra" imports. They consist of increased quantities of things the city has continued to import (has not replaced), and also things the city did not previously import at all. These extra imports feed into the city's local economy:



Due to those extra imports, the city's local economy can grow. This local growth is the "import-replacing multiplier effect" (+IM).



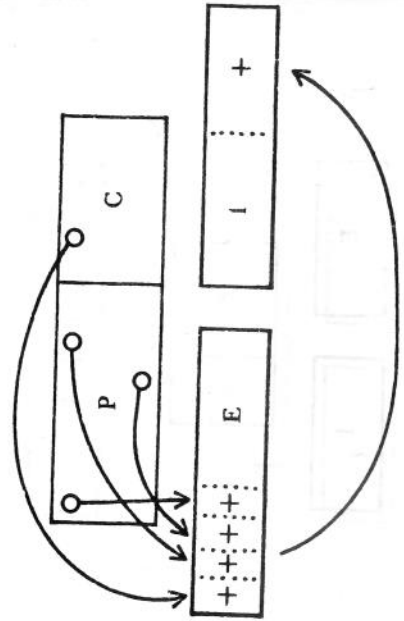
Now let us remove the empty space in the import block, that is, reconnect the two parts of the block. And let us compare the composition of the city economy now with its composition when import replacing was about to begin:



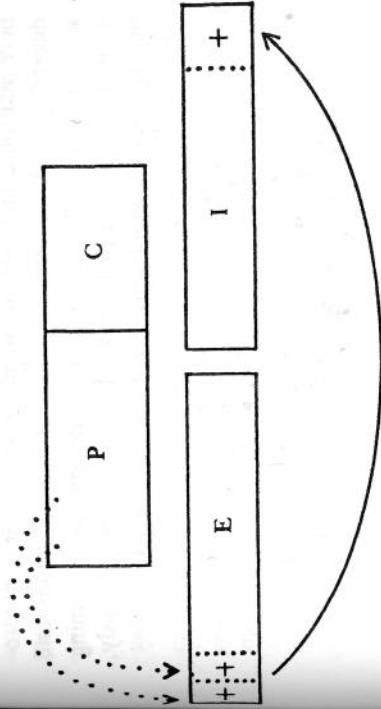
The volumes of exports and imports remain the same, although the imports have shifted in composition. The local economy of the city has grown. Therefore, the proportions of the local work and export work have changed.

III *Export Generating in a Large City, Diagrammed*

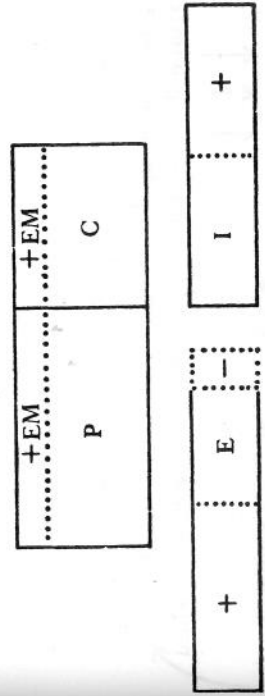
As set forth in Chapter Six, after a city has developed a large local economy, it has also acquired a large reservoir of potential new exports. The simple export-generating process continues. But in addition, many local consumer goods and services are now exportable. And so are many goods and services that supply *local* producers, quite apart from those that supply exporters:



And in addition to these exports from the local economy, others are made possible by the local producers' goods and services on which they can draw. We can show these exports connected by dotted line to the local producers' goods and services on which they depend:



Of course, the city is also losing older exports while it is generating new ones. But to the degree that new exports overcompensate for losses of old ones, the city's volume of imports grows. And the local economy grows too, owing to the export-multiplier effect, just as happened in the case of simple export generating.



Conditions are thus prepared for another episode of the import-replacing process.