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Mass Transfer and Urban Problems

Geophysicists are understandably excited because they have clearly detected continental drift. This finding comes as no surprise to the public official, who has already observed that the island of Jamaica, a huge exporter of bauxite, is gradually drifting—in the form of a unicellular layer of aluminum beer cans—onto the United States and covering us.

Indeed, one way of looking at the problem of the urban environment is from this mass-transfer point of view. An urban society is characterized by the continuing transfer of substantial amounts of matter from remote, uninhabited sites to urban centers. Thus, fuel, ore, and timber, as well as food, are extracted or harvested in distant, rural locations and ultimately transported to urban areas. There, after physical and chemical transformation, they are deposited within the urban environment as solid, liquid, and gaseous wastes, and our cities stagger under the resulting burden of polluted air and water and mounting piles of solid refuse.

Yet, as a matter of public policy, our society perversely encourages and subsidizes this process of mass transfer. We grant generous depletion allowances instead of levying prohibitive depletion penalties. A pound of iron as ore is less costly to transport than a pound of iron as scrap, a rate preference enshrined in federally prescribed interstate tariffs. Thus, although recycling presents itself as a way of reducing the overload on our environment, our system discourages recycling and rewards profligate consumption. The required national changes are obvious, but the political will is generally lacking. One hopeful sign is the recent legislation in New York City which discriminates in favor of manufacturers who use recycled material in paper products purchased by the city government.

At the municipal level, a refuse-collection service that is paid for exclusively by real estate taxes offers no incentive to reduce the amount of refuse that is generated; whether one produces a lot of refuse or a little makes no difference, for it is removed "free of charge." The result, again, is that we encourage indiscriminate production of waste in our "effluent society" at the same time that we are running out of land for waste disposal. To repair this portion of our malfunctioning system, we ought to either impose a disposal tax—collected at the manufacturing source—on all inedible products (with the tax proportional to the difficulty of disposal), or else charge the consumer directly, by the pound, for the waste he nonchalantly bequeaths to his municipality.

The challenge before us is to design and implement the right kind of regulatory feedback mechanisms, through enlightened tax and transport policies, so that we can reduce the rate of depletion of our resources, increase recycling, reduce the amount of material that has to be handled in the cycle, and improve the quality of our urban environment.—E. S. SAVAS, *First Deputy City Administrator, Office of the Mayor, 250 Broadway, New York 10007*