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NUTRITIONAL PROBLEMS OF URBAN COMMUNITIES

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Chairman's introduction

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The subject of our symposium to-day has many different aspects, as is shown by the titles and abstracts of the papers we are going to hear. Food in nineteenth century England; the growth and nature of urban areas in developing countries; economic and marketing aspects of food supplies in cities; protein deficiency in urban and rural areas; factors affecting the nutritional status of urban communities—each of these is a large subject in itself. In any symposium one hopes that some broad generalizations and conclusions will emerge from the contributions and discussions. We should be on the look out for these as we go along.

Urbanization began at an early stage in human history, after man had ceased to be a hunter and a food gatherer and had turned to the cultivation of cereals and other crops and to the keeping of domestic animals. The majority of people continued to live in close contact with the soil and to eat the food which they themselves produced. But technological advances enabled them to produce rather more food than they needed for themselves, thereby allowing a small section of the population to be fed without engaging in farming. These became the first town-dwellers, with opportunities for specializing in occupations other than agriculture. The towns, fed by the rural areas, grew into the early civilizations whose remains impress us to-day. 'Civilization' and 'city' are the same word.

As long as cities were relatively small, and depended for their food supplies on adjacent lands, the diets of town-dwellers and food producers must have been much the same. But at the stage of urban development reached by the ancient city of Rome, differences appeared. We know that the proletariat of Ancient Rome were sustained by free bread rations which villagers did not receive, made mainly from wheat brought by sea from North Africa. The miller-bakers of Rome who handled the imported wheat were citizens of dignity and substance. We also know that Ancient Rome had so serious a traffic problem, no doubt caused largely by carts carrying food into the city, that Julius Caesar forbade wheeled traffic during the day-time. This congestion suggests that supplies of fresh food in the heart of the city were limited and expensive.

Coming to more recent times, we must differentiate between the urbanization resulting from the industrial revolution in countries such as England, and the urbanization now occurring on a large scale in poor countries in the tropics and

subtropics. The former produced serious nutritional problems. Rickets, for example, reached its epidemiological peak about 70 years ago in the slums of large cities in the temperate zone. Again, the tremendous mortality in infants and young children which persisted in England and Wales and other Western countries well into the present century was due in considerable measure to bad urban conditions. Its basic cause was a combination of deficient diets and infection. Infants were weaned below the age of 3 months by poor urban mothers who had to return to work as soon as possible. They were then handed over to anyone available to be looked after and fed on biscuits or bread soaked in water, occasionally supplemented by skimmed sweetened condensed milk. Their environment teamed with noxious bacteria and with flies to disseminate the bacteria. All this has been vividly described by writers such as Newman (1906) and Ashby (1915).

As far as infants and young children were concerned, nutritional conditions were somewhat better in the rural areas and small towns than in large cities. Certainly there was more breast-feeding in the former. But the adult city poor may have been somewhat better fed than the rural poor. This was one of the unexpected findings of John Burnett's (1966) interesting study *Plenty and Want*.

At this symposium, we are specially concerned with the effects on nutrition of urbanization as it is now taking place in the developing countries. Here I will mention a few salient points.

This urbanization is proceeding much more rapidly in these countries than it ever did in England. There are cities which have doubled their population in 10 years. In the tropics housing can be more flimsy than in the temperate zone. Survival in shanty towns made of packing cases and empty cans is possible, as it is not in cold countries. But whatever the housing conditions, the appeal of the city to the villager, particularly the young male villager, seems to be irresistible.

Migration citywards involves some changes in traditional dietary habits. Usually, more meat, bread, sugar and soft drinks are consumed. An under-milled staple cereal may be replaced by a highly-milled cereal. There are no longer hungry months before the harvest. By and large the state of nutrition of the adult age-groups does not deteriorate with urbanization. Dema & Den Hartog (1969), in a recent article on nutrition and urbanization in tropical Africa, conclude that 'in terms of physical well-being, the available data indicate that urban prosperity leads to a more robust body build . . . far from causing adverse changes in dietary patterns, the long-term nutritional effects of urbanization are satisfactory in so far as the urban dwellers have the buying power to meet their food needs and also live in reasonably clean environments'. Other investigators have reached much the same conclusions.

But urbanization may bring one especially undesirable change in dietary practices. This is a reduction in the period of breast-feeding and the replacement of breast milk by processed cow's milk which is often given in insufficient amounts and is liable to contamination. Unsatisfactory artificial feeding in an insanitary environment promotes protein-calorie malnutrition, particularly in its marasmic forms. Some people believe that the prevalence of marasmus will increase as urbanization proceeds. This seems probable, but against it is the steady fall in infant mortality

now taking place throughout the world in spite of increasing urbanization. In cities in technically developed rich countries, malnutrition in infants and young children has been largely eliminated.

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Food in nineteenth century England: nutrition in the first urban society

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Introduction

When the English philosopher, Thomas Hobbes, described man's existence in the state of nature as 'solitary, poore, nasty, brutish, and short' (Hobbes, 1651) it seemed almost a description of the England of his own times. A pre-industrial society, like that of seventeenth and eighteenth century England, had very limited possibilities of economic production. Essentially it was tied to the level of agricultural output and reflected fluctuations in population growth, in prices, in foreign trade and levels of income. Also, while there was a lack of systematic understanding of the physical environment, there could be little marked advance in technology. Consequently, in such a society food production necessarily occupied a large part of the labour force and, although income levels were low, much of what was earned was spent not in investment in new techniques, but in spasmodic high living or in wars or in religious monuments—to the economist the parish churches and cathedrals of England represent the non-productive fixed capital of a past age.

Industrialization and urbanization

Although the traditional society's control over its resources was limited, the nutritionist has to recognize that its population survived and succeeded in reproducing itself, however irregular work and income might have been or whatever mishaps befell the harvest. What is more, there was a marked growth in population during the second half of the eighteenth century. In England in 1801 there were some 50% more people than in the mid-eighteenth century: estimates for 1750 suggest the population was about $6{\cdot}5 \times 10^6$ persons, and $9{\cdot}1 \times 10^6$ in 1801. Whatever the reasons for this growth, it appears to be part of a European-wide movement (Cipolla, 1965). Table 1 shows population growth in Britain during the nineteenth century. Between 1801 and 1911, the decennial rate of increase was always in excess of 10%. By