

FOOD HABITS AND NUTRITIONAL DEFICIENCY:

A STUDY OF DIET IN CENTRAL AFRICA

FOOD HABITS AND NUTRITIONAL DEFICIENCY:

A STUDY OF DIET IN CENTRAL AFRICA

by

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showing that malnutrition is not only a function of  
nutritional needs and food supplies, but also depends  
on culturally learned behaviour and values.

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## INTRODUCTION

It was not until after the turn of this century that a systematic body of knowledge was built up about nutritional needs, and it was even later that the application of this knowledge showed the full extent of nutritional deficiency. Surveys in some of the economically more developed countries of the world showed that large sectors of the population were malnourished,<sup>1</sup> while further investigations revealed that "the greater proportion of the world's population, both human and animal, never gets sufficient food."<sup>2</sup>

As this discovery gradually "forced itself into the world's consciousness",<sup>3</sup> concern which it aroused was channelled in two main directions, the medical and the agricultural. The first of these approaches concentrated on the malnourished individual, the deficiencies of his diet and means of restoring him to full health. Although it is still impossible to state exactly the nutritional needs of an individual of particular age, sex and physique, in any given climatic region, knowledge of dietary requirements has advanced considerably and some consensus

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<sup>1</sup>John Boyd Orr in Food Health and Income (London, 1937), asserted that two thirds of the British public were malnourished, and the work of Hazel Stiebeling in the United States revealed a very similar picture.

<sup>2</sup>The State of Food and Agriculture, 1962 (Rome, 1962), 129.

<sup>3</sup>Ibid.

has been reached about needs.<sup>4</sup> With this knowledge, medical practitioners have found it possible to cure individual cases of malnutrition by controlling the diet of the patient.

The agricultural approach to the problem has concentrated, not on curing individual cases of malnutrition, but on attacking the conditions which apparently give rise to it - inadequate food supplies. From this approach, the solution to the problem is seen in terms of increasing agricultural production to overcome these shortages. The Food and Agriculture Organisation of the United Nations (F.A.O.), for example, itself a product of increasing world concern over the extent of malnutrition, has continually stressed the "imperative need to expand food production",<sup>5</sup> and has provided technical experts to assist in this task.

The aim of this study is not to deprecate the value of these two approaches to the problem, but rather to stress the need for a third approach - a cultural one. It is, for example, insufficient to ask, as the medical profession does, why an individual is malnourished and to answer in terms of essential elements lacking from his diet. It is necessary to go beyond, to another level, and to ask why it is that this individual fails to receive an

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<sup>4</sup>See, for example: F.A.O., Calorie Requirements (Rome, 1957). F.A.O., Protein Requirements (Rome, 1957).

<sup>5</sup>The State of Food and Agriculture, 1962 (Rome 1962), 129.

adequate diet. A doctor working on cases of malnutrition in Rhodesia reports that one in five babies, nursed back to health in the hospital, returns at a later date in a similar state of malnutrition, caused by a diet of sadza<sup>6</sup> and tea, or soft drink and buns. He explains: "We do our best. We feed them with milk and vitamins. Then they go home again and take their chance with poverty and ignorance".<sup>7</sup> It is as important to understand the social conditions which foster malnutrition, as it is to understand the nutritional deficiencies which are its immediate cause.

The agricultural approach stresses an increase in the production of food as the solution to the problem, the assumption being that diet is determined by available food supplies. It is true that dietary deficiencies automatically accompany food shortages; nevertheless, the existence of adequate supplies is no guarantee that malnutrition will not occur. Affluence, with the variety of foods it offers, does not eliminate malnutrition and, in certain cases, may even encourage it. North American and European diets are open to much criticism. A large proportion of the population in these areas is malnourished, albeit in a very different way from the peoples under discussion in this study. The F.A.O./W.H.O. Committee on Nutrition

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<sup>6</sup>A thick porridge made from maize flour.

<sup>7</sup>The Sunday Mail, Rhodesia, (July 12, 1964), p.11.



of 1955 reports:

There is now an abundance of proof that diet plays an important part in the development of degenerative cardiac conditions...These cardiopathic conditions have become the most frequent causes of death in North America and in a large part of Europe, particularly among the wealthier elements of the population.<sup>8</sup>

While a rise in food production is clearly a necessary precondition of the elimination of malnutrition, in itself it is not sufficient to insure good dietary standards. An adequate diet involves more than the availability of food supplies. What an individual eats is determined, not only by his nutritional needs and the food supplies available to him, but also by the way in which he selects, prepares and consumes his food. He does this, not by instinct or by reason, but in accordance with learned habits and attitudes which he shares with other members of the society to which he belongs.

The hypothesis put forward in this study is that malnutrition is not only a function of nutritional needs and food supplies, but also depends on culturally learned behaviour and values. It may be argued that there has been too little awareness of the part that food habits play in the determination of diet, and that there will be no permanent improvement in diets unless food habits change to take account of nutritional needs.

It should be pointed out that the data were not collected specifically for this study and are, therefore, less than complete. Nevertheless, by carefully defining the scope of the analysis, as the relationship between diet and culture in Central Africa, it is hoped to provide a viable account of how, in this area, particular food habits, beliefs and attitudes form a block between nutritional needs and their satisfaction.

## I

### FOOD RESOURCES, DIET AND NUTRITION OF FIVE CENTRAL AFRICAN TRIBES

The five tribes chosen for this study are to be found in Northern Rhodesia, now Zambia.<sup>1</sup> The particular peoples, Bemba, Plateau Tonga, Mambwe, Lala and Ngoni, were chosen not because their food habits are in any way more suitable for this study than those of any other peoples of the area, but rather because their ethnography is more complete. This is due in a large part to the establishment of the Rhodes-Livingstone Institute in 1937, one of whose activities is the investigation of the social systems of the peoples of Central Africa. The Institute published a large number of monographs, both on the traditional social systems and on adaptations to the new economic and social conditions arising from European influence and industrialisation.

The studies were made between 1935 and 1958.<sup>2</sup> Despite their dispersal over this period, however, the picture presented for each is much the same: a situation in which a money economy is replacing a subsistence economy, where particularistic social relations are giving way to universalistic ones and where traditional modes of thought and behaviour are changing in contact with Western patterns.

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<sup>1</sup>Northern Rhodesia will be used in preference to Zambia, as the studies on which this chapter is based were made before independence.

<sup>2</sup>The "ethnographic present" will, however, be used. The present tense is used frequently by anthropologists in descriptions of social systems at one point in time although they are aware that the situation they describe is not necessarily true today.



European settlement in the area is small,<sup>3</sup> but the discovery of rich mineral deposits has brought about a rapid development of mining and with it, urbanisation. The exploitation of these mineral resources has been possible only through large supplies of cheap African labour. Young men have been drawn into the towns, attracted by the prospect of earning money with which to pay taxes and to satisfy their newly-aroused desires for European goods. Permanent settlement in the towns is, however, the exception as low wages and poor housing have generally made it impossible for a man to support his wife and family there. Leaving their families in tribal villages, young men thus migrate to the mining areas where they work for a period before returning home. This pattern is repeated so that the men of working age are in a continuous circulation between town and country. They retain their position in the traditional social system, while in the towns they become part of an anonymous, heterogeneous labour force. This has, as Watson writes, "brought about the apparently paradoxical situation that the most advanced forms of European industry exist simultaneously with age-old methods of subsistence cultivation, and that modern urban communities are arising in the midst of simple tribal groups".<sup>4</sup>

Despite the fact that the urban population of Northern Rhodesia is larger than in any other part of tropical Africa, on the whole it is

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<sup>3</sup>In 1959 Europeans comprised only 3.1% of the population of N. Rhodesia. (J.R.H. Shaul, "Demographic Features of Central Africa", in K.M. Barbour and R.M. Prothero, eds., Essays on African Population (London, 1961), p.34.

<sup>4</sup>W.Watson, Tribal Cohesion in a Money Economy (Manchester, 1958), 1.

a sparsely populated area with an average density of only six persons to the square mile.<sup>5</sup> On the infertile plateau in the North, inhabited by the Bemba, population density is as low as 3.95 per square mile,<sup>6</sup> while the Plateau Tonga who live in one of the most fertile parts of the area have an average density of fifty to the square mile.<sup>7</sup>

Population in the area is rising, although estimates of population growth are unreliable due to the lack of basic data.<sup>8</sup> The demographic sample survey of 1950 found the population to be doubling every 28 years.<sup>9</sup> The cause of this increase appears to be a fall in the mortality rate due to improved medical facilities, rather than a rise in birth-rate. Elizabeth Colson, writing of the Plateau Tonga, reports that it is generally believed by both Europeans and the Tonga themselves that population has increased rapidly since European occupation.<sup>10</sup> Watson, too, reports that rough estimates show Mambwe population to have had an annual rate of

<sup>5</sup>R.W. Steel, "The Towns of Tropical Africa", in K.M. Barbour and R.M. Prothero, eds., Essays on African Population (London, 1961), p.263.

<sup>6</sup>A. Richards, "The Bemba of N. Rhodesia", in E. Colson and M. Gluckman, eds., Seven Tribes of British Central Africa (London, 1951), p.164.

<sup>7</sup>E. Colson, "The Plateau Tonga", in E. Colson and M. Gluckman, eds., Seven Tribes of British Central Africa (London, 1951), p.100.

<sup>8</sup>F.A.O., Africa Survey (Rome, 1962), 15.

<sup>9</sup>See J.R.H. Shaul, op.cit., p.45.

<sup>10</sup>E. Colson, "The Plateau Tonga", in E. Colson and M. Gluckman, eds., Seven Tribes of British Central Africa (London, 1951), p.99.

increase of 2.32% during the years between 1933 and 1952.<sup>11</sup> He suspects the main cause of this increase is a sharp fall in the death rate.

Before the introduction of a money economy, the peoples of Central Africa were all subsistence cultivators. This is still largely true of the rural areas, although some tribes with fertile land and ready access to towns now produce cash crops, and income is augmented by the earnings of migrant workers.

Soils of Northern Rhodesia are generally infertile and the cultivation of crops, which provide the basic food supply over the whole of the area, depends on a system of shifting cultivation: a village is built, the land around it cultivated, and when the soil is exhausted the village moves to a new site.<sup>12</sup> With a low population density, exhausted land could lie fallow for a long period of years before being cultivated again, but increasing population now means that insufficient time elapses between periods of cultivation and there is danger of soil deterioration.

The two main crops of the area are millet and maize; the former, more suited to poorer soils, is grown largely on the plateau in the North, while the latter tends to predominate in the more fertile areas in the South. These grains provide the staple diet of all peoples in the area. The grain is consumed in the form of a stiff mixture made by boiling water in a large pot and adding maize or millet flour. The correct consistency is reached when the mixture is stiff and pliable and can be

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<sup>11</sup>W. Watson, Tribal Cohesion in a Money Economy (Manchester, 1958), 15.

<sup>12</sup>A further description of shifting cultivation can be found on pp. 39-40 above.



kneaded into large, round lumps.<sup>13</sup> These are then dipped into a sauce and swallowed whole. This sauce is considered an essential accompaniment to the ubwali: it gives it taste, makes it easier to swallow and introduces some variety into the monotony of diet. Umunani, as the Bemba term this sauce,<sup>14</sup> is made from a variety of foods of which meat is the most valued but also the most rare. All peoples keep some domestic animals: goats and chicken are widespread, but the distribution of cattle is limited by the tsetse fly. Fish is sometimes used as an alternative to meat, but its consumption is generally limited to lake and river villages. Umunani is more often made from vegetables, commonly from pumpkins, peas, beans, groundnuts and cucumbers, and also from wild foods, particularly bush-mushrooms and green leaves.

#### BEMBA

The Bemba inhabit an area of the high plateau in North-East Rhodesia, where soils are very poor and rainfall irregular although ample. The area is forested and the Bemba practise the chitemene system of cultivation whereby branches are cut off the trees, burned, and gardens planted in the ashes. Their staple crop is finger millet upon which they rely very heavily, indeed so much that plenty and hunger are judged by the amount of this grain they possess. It has been calculated that

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<sup>13</sup>See A. Richards, Land, Labour and Diet in Northern Rhodesia (Oxford, 1939), 46, and B.P. Thomson, Two Studies in African Nutrition (Manchester, 1954), 36. The Bemba word ubwali will be used for this foodstuff, as there is no exact equivalent in English

<sup>14</sup>This word will be used throughout for the sauce.

the Bemba gets 75% of his calories from this food.<sup>15</sup> Fortunately, finger millet is a more valuable crop from the nutritional point of view than most other cereals grown in the area.<sup>16</sup>

Umunani made from meat is very rare, in fact villagers often go for months without tasting it, for game is scarce and the Bemba are unable to keep cattle because of tsetse fly. A number of domestic animals are kept, particularly goats and chicken, but these provide a very infrequent source of meat. Fish is sometimes used in place of meat but the consumption of this is concentrated in areas bordering the Chambesi river and fish is not a regular part of the diet of most Bemba. Other minor sources of animal protein include caterpillars and wood-lice. The total consumption of animal protein is thus extremely low. Dr. Widdowson calculated that an average of 10.2 grams per day is consumed by a man, in the three Bemba villages on which she made a study, compared with 50 grams in a typical European or American diet.<sup>17</sup>

Umunani is thus rarely made of meat or fish, but is usually prepared from subsidiary crops or from wild foods gathered from the bush. Of the subsidiary crops, pulses are nutritionally the most important. These include beans, peas and, more particularly, ground-nuts, which are rich in fats, in which the Bemba diet is very deficient. As a whole

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<sup>15</sup> A. Richards, Land, Labour and Diet in Northern Rhodesia (Oxford, 1939), 37.

<sup>16</sup> A. Richards reports that it is superior to cassava in protein, fat and mineral salts, although it contains slightly less protein and fat than does maize. Ibid., 38.

<sup>17</sup> A. Richards and E. Widdowson, "A Dietary Survey in N.E. Rhodesia", Africa, IX (1936), Table 3, 184.

these pulses are a valuable addition to diet, both in fats and in proteins. Other relishes are made from pumpkins, cucumbers and sweet potatoes, while wild foods gathered for this purpose include mushrooms and green leaves.

Not only is millet used for ubwali, but also to make beer, which is nutritionally valuable, since it is rich in vitamin B. The Bemba are, however, at a disadvantage compared with other tribes which grow a particular crop exclusively for this purpose, as beer-making is an extravagant way of using millet supplies, which are always short for a period every year. Audrey Richards estimated that for every family, an average of 400 pounds of millet went into beer, out of an annual production of 2,400 pounds.<sup>18</sup> This is particularly serious for the Bemba, who, in contrast to a number of other tribes of the area, have a definite hunger period, when millet supplies of the previous year are exhausted and the new grain is not yet ripe. At this time gardening and social activities are reduced to a minimum, while the Bemba live on whatever foods are available, usually gourds, leaves, fungi and caterpillars, until the new supplies are ready.<sup>19</sup>

While European foods have become popular in the urban areas and among those tribes with cash-crops to exchange for them, the relative poverty of the Bemba generally prevents their use. Tea, coffee, sugar, white bread and tinned sardines are bought by a few Bemba who live in villages close to white settlements, but as yet they are bought only by those who have the money and are willing to spend it on enhancing their prestige.

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<sup>18</sup>

A. Richards, Land, Labour and Diet in Northern Rhodesia (Oxford, 1939), 80.

<sup>19</sup>Ibid., 16.



## MAMBWE

The Mambwe, close neighbours of the Bemba, live on the plateau of Northern Rhodesia too. As in Bemba territory, the soil is poor and the rainfall limited to one season. Whereas the Bemba live entirely in the forest land, the Mambwe occupy two distinct ecological zones, part of their land is forested while part of it is grassland. Crops, however, are similar to those of the Bemba: finger millet is the staple crop and is grown in both forest and grassland regions. Other crops include ground-nuts, cassava, sweet potatoes, bananas, pumpkins, peas and beans.<sup>20</sup> Unlike the Bemba, however, the Mambwe are able to keep cattle on the grassy plains which are free from tsetse fly.

On the whole, Mambwe diet is superior to that of the Bemba. Little nutritional advantage is gained, however, from cattle-keeping. Milk is not thought of as an article of diet and is used as umunani only as a last resort.<sup>21</sup> Cattle are seldom killed for meat, as the cash which their sale brings is considered more valuable. Uwali made from finger millet is the main food of the Mambwe and large quantities of beer are consumed. The Mambwe, however, do not suffer from hunger months as do the Bemba and are able to supplement their diet with maize and cassava until the next millet crop ripens.<sup>22</sup>

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<sup>20</sup> W. Watson, Tribal Cohesion in a Money Economy (Manchester, 1958), 20.

<sup>21</sup> Ibid., 30.

<sup>22</sup> Ibid., 112n.



## LALA

The Lala also live on the Plateau. Again the staple crop is finger millet from which they make both ubwali and beer. Their grain supply is supplemented by sorghum and maize. As with the Bemba and the Mambwe, pulses, beans, peas and ground-nuts are the most common umunani. Green leaves, cucumbers and pumpkins are also used for this purpose as are fungi and caterpillars when available.

Meat consumption is low despite the fact that the Lala are able to keep cattle in addition to the small domestic animals kept throughout the area. Little use is made of the milk, which is usually given to the herd-boys in compensation for their services. Although most families keep chicken, they do not form a regular part of Lala diet. B.P. Thomson, a nutritionist, recorded the consumption of hens in a Lala village and found that only about half of the households killed hens during the year and even these killed only once or twice.<sup>23</sup> Fishing is limited to the period between August and January each year and to villages near Lake Lusiwashi. There is, however, some exchange of fish for millet between these villages and those further from the lake. The seasonal shortage of millet which characterises both Bemba and Mambwe diets applies to the Lala and there is a considerable seasonal variation in intake.<sup>24</sup>

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<sup>23</sup>B.P. Thomson, op.cit., 42.

<sup>24</sup>Ibid., 49.

## PLATEAU TONGA

The Plateau Tonga, who live much further south, occupy some of the best land in Northern Rhodesia, although rainfall is often short.<sup>25</sup> The relatively good quality of the land, together with the proximity of the railway line has invited European settlement as well as cash-crop farming by the Plateau Tonga. Due to these factors, the traditional staple crops of the area, millet and sorghum, are giving way to maize, which now comprises a considerable part of Plateau Tonga diet and is also sold as a cash crop. Cucumbers, pumpkins, beans, peas and ground-nuts are also grown. It is possible to raise cattle, in addition to the usual goats and chicken, as the tsetse fly occurs only sporadically in the area. Chicken and eggs are sold to European settlements and the Plateau Tonga are beginning to keep pigs for the same purpose.

Plateau Tonga food is again largely composed of ubwali made from millet and sorghum, and, more recently, maize, with umunani made from meat, fish and vegetables. Cattle provide only an infrequent source of meat, while hunting, which once made an important contribution to diet, provides little meat now. Fish drives are held at the end of the rains, but contribute little to diet. Large quantities of beer are drunk by adults and children and this comprises a major element of diet.<sup>26</sup>

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<sup>25</sup>E.Colson, "The Plateau Tonga", in E.Colson and M.Gluckman, eds., Seven Tribes of British Central Africa (London, 1951), p.97.

<sup>26</sup>E.Colson, "Plateau Tonga Diet", Human Problems in British Central Africa, XXIV (1958), 52.

Due to their proximity to European settlements and to the sale of cash-crops, the Plateau Tonga are beginning to consume a number of European foods, although only the more wealthy have come to regard these as a regular part of diet. Salt and sugar are bought by all, while the most prosperous buy white bread, tea, cocoa, jam, sweets and tinned foods.<sup>27</sup>

#### NGONI

The Ngoni, who are the most recent immigrants to the area, settled in Northern Rhodesia, Tanganyika, Nyasaland and Portuguese East Africa. They are traditionally a cattle people, related to the Zulu. In the pre-European period they are believed to have eaten a great deal of meat, milk and blood.<sup>28</sup> Today, although herds are still large, these foods are not consumed to the extent they were. Maize, which is the main crop grown by the Ngoni, now forms the basis of their diet and is also sold as a cash-crop. Subsidiary crops are much the same as in the rest of the area, peas, beans, ground-nuts, pumpkins and cucumbers. The contribution of fishing to diet is negligible but hunting is more productive than in many other parts of Northern Rhodesia and antelope, leopard, wild pig and buck contribute to diet. As in the other tribes, large quantities of beer are consumed and some European foods are bought, particularly wheatflour and sugar.

A general picture of nutritional imbalance emerges from an examination of the diets of these tribes. One striking characteristic is

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<sup>27</sup> Ibid., 51.

<sup>28</sup> M. Read, The Ngoni of Nyasaland (London, 1956), 171.



overdependence on cereals from which the bulk of calories is derived. In comparison, the proportion of other foodstuffs in diet is very low, particularly meat, fish, milk and other sources of protein. Monotony of diet and seasonal food shortages are linked with this heavy reliance on one type of foodstuff. Uwali is eaten at every meal and the variety introduced by umunani is limited. Seasonal food shortages arise from reliance upon a single cereal of which there is only one crop a year. The period between the consumption of one crop and the ripening of the next is a definite hunger period for some of these tribes.

Nutritionists are increasingly concerned about imbalance in diet. Following the realisation that a diet which satisfies hunger is not necessarily enough and that there are requirements which must be met over and above the need for energy-producing foods, attention has shifted from the quantity to the quality of food necessary to maintain full health. It is on these grounds of quantity and quality that the distinction between malnutrition and undernourishment is made. B.R.Sen, Director General of the F.A.O., put the distinction this way:

Undernourishment means plain hunger. Malnourishment has been called hidden hunger, an expression which implies that people who have enough to eat may nevertheless be unhealthy, seriously ill and die, because their diet does not provide all the elements for satisfactory growth and health.<sup>29</sup>

Dietary deficiencies are, therefore, of two main kinds: undernourishment and malnutrition. The first of these, undernourishment, refers to the condition resulting from the consumption of inadequate quantities of food or, as the nutritionist F.G.Mont writes, "is a result of a

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<sup>29</sup>B.R. Sen, Problems of Food and Nutrition - Views and Programs of F.A.O.: (Rome, 1961), 384.

discrepancy between food intake and body energy requirements".<sup>30</sup>

On the whole undernourishment in Africa is not as widespread or as serious as it is in many other parts of the world. Theodore Gillman, a nutritionist specialising in African problems, writes: "Frank starvation is not a basic health problem in Africa",<sup>31</sup> and the F.A.O. reports that in most areas calorie requirements are either satisfied or come near to being so:

Calculated on the basis of the recommendations of the F.A.O. Committee on Calorie Requirements, the daily per caput calorie requirement, taking into account climate and the age of the population, is approximately 2,000 to 2,200. The data from most of the surveys show that the calorie value of the food consumed is within 10% of the requirements.<sup>32</sup>

Examinations of Bemba and Lala diet, however, show that average calorie intake is well below this estimated requirement, particularly at certain times of the year. For three Bemba villages the average daily calorie intake over eight months is 1,706,<sup>33</sup> while for three Lala villages it is 1437<sup>34</sup> over one year.

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<sup>30</sup>F.G. Mont, "Undernutrition", in M.G. Wohl and R.S. Goodhart, eds., Modern Nutrition in Health and Disease (Philadelphia, 1964), p.1030.

<sup>31</sup>T. Gillman, "Chronic Malnutrition in Africa", The Listener (May 3, 1956), p.538.

<sup>32</sup>F.A.O./W.H.O. Seminar Report. Problems of Food and Nutrition in Africa South of the Sahara (Rome, 1961), 2.

<sup>33</sup>A.Richards and E. Widdowson, op.cit., Table 2, p.176.

<sup>34</sup>B.P. Thomson, op.cit., Appendices III, IV, V.

Estimates of average calorie intake per capita per year are rather misleading, for while this average may appear satisfactory, there are often seasonal shortages, especially where there is only one crop per year of the main staple, as is generally the case in Central Africa. The F.A.O./W.H.O. report suggests that during the 'hunger period' the calorie deficiency may be 30% or more.<sup>35</sup> This is supported by calculations made by E. Widdowson on the diet of three Bemba villages, which showed that, while calories averaged 2,061 in the hot weather season, they fell to 816 per day in the hunger months, February and March.<sup>36</sup> There is a similar shortage for the Lala in these months.<sup>37</sup>

The F.A.O. has described the typical results of undernourishment as:

a lack of energy and initiative, a refusal to face physical and intellectual effort, a tendency to sleep too much. There is, in addition, diminished resistance to certain types of sickness and a lowered ability to recuperate after a sickness.<sup>38</sup>

Although in Africa it is difficult to distinguish the results of undernourishment from those of malnutrition, as many diets are deficient in both quantity and quality, these conditions are found. Audrey Richards reports that "the whole tenor of native life is less energetic when food is short" and in the hunger season the Bemba do their gardening work

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<sup>35</sup> F.A.O./W.H.O. Seminar Report. Problems of Food and Nutrition in Africa South of the Sahara (Rome, 1961), 2.

<sup>36</sup> A. Richards and E. Widdowson, op.cit., Table 3, p.184.

<sup>37</sup> B.P. Thomson, op.cit., Appendices III, IV, V.

<sup>38</sup> F.A.O., Calorie Needs (Rome, 1957), 12.



hurriedly and carelessly.<sup>39</sup> Evidence from African mines also suggests that undernourished men are incapable of hard labour. A large proportion of men who present themselves for work in mines are rejected on medical grounds and of those accepted many have to be given lighter work until strengthened by better diets.<sup>40</sup> Reports from African hospitals show that undernourished patients are slow to respond to normal medical care. Batten writes: "Hospital wards are crowded with patients for whom healing or recovery cannot take place until their bodies have been strengthened by better food".<sup>41</sup>

From the limited evidence available, malnutrition appears to be an even greater problem in Africa than undernourishment. It stems directly from the type of diets described above, unbalanced and monotonous, with overdependence on one staple cereal. As mentioned above, all Central African peoples gain their basic food supply through grain, either millet or maize, with small additions of meat and fish, and rather larger additions of vegetables. Although energy requirements may be met, the combination of foods is unbalanced and malnutrition results. It is, in fact, a more serious health hazard than undernourishment, for it is unbalanced diets, in which food is sufficient in quantity but inadequate in quality and variety, which lead to the development of deficiency diseases. These diseases do lasting injury to health.

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<sup>39</sup>A. Richards, Land, Labour and Diet in Northern Rhodesia (Oxford, 1939), 399.

<sup>40</sup>T.R. Batten, Problems of African Development (Oxford, 1947), II, 12.

<sup>41</sup>Ibid.



Little is known of the extent of malnutrition. There are two main ways of assessing it; first, by medical examination of the whole population which shows the effects on health of dietary deficiencies and second, by dietary surveys which enable the actual consumption of food to be measured and then compared with that necessary to satisfy needs. In the absence of these kinds of studies, the F.A.O. has been forced to use a far less efficient method: the extent of malnutrition is calculated by comparing the ratio of calories derived from cereals, starchy foods and sugar to the total per capita calories consumed. "Where this proportion is unusually high, for example where these foods furnish over two-thirds of total calorie supply, clear evidence is afforded of nutritional imbalances"<sup>42</sup> This method of course ignores the distribution of food within the population examined, but in the absence of other assessments gives some indication of the extent of malnutrition.

The F.A.O. Africa Survey shows that 79% of total calories in Rhodesia and Nyasaland are derived from starchy foods and cereals,<sup>43</sup> well above the two-thirds of total calorie supply suggested by the F.A.O. as giving indication of nutritional imbalance.

As early as 1931 Sir John Boyd Orr and Dr. J.L. Gilks noted the effects of diet on health in Africa. They compared the physique and health of the Masai tribe, who lived on large quantities of meat, milk and blood, with their Kikuyu neighbours whose diet was chiefly vegetable. They found that the Masai were heavier and healthier than

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<sup>42</sup>F.A.O., Second World Food Survey (Rome, 1952), 14.

<sup>43</sup>F.A.O., Africa Survey (Rome, 1962), Table 7, 23.

the Kikuyu, a fact related to the large proportion of protein in their diet.<sup>44</sup>

Since then it has been firmly established that protein deficiency is widespread in Africa.<sup>45</sup> It is this element which is most noticeably lacking in the diets of these Central African tribes. The diet of the Plateau Tonga, for example, despite their wealth in cattle, is particularly lacking in animal protein and to a lesser extent in vegetable protein.<sup>46</sup> The amount of animal protein in Bemba diet is very small and may be entirely lacking,<sup>47</sup> while the Lala also consume a diet deficient in protein.<sup>48</sup>

Kwashiorkor, a nutritional disease affecting children, is at least partly attributable to protein deficiency. The relation between diet and kwashiorkor has been shown in a comparison of the health of the Basuti, a pastoral people who drink much curdled milk, and the Bahutu who live in the same area on starchy foods. The W.H.O. report states that while there is kwashiorkor among the Bahutu there is none among the Basuti.<sup>49</sup>

<sup>44</sup>J.B. Orr and J.L.Gilks, The Physique and Health of Two African Tribes (London, 1931).

<sup>45</sup>F.A.O./W.H.O., op.cit., 12.

<sup>46</sup>W. Allen, M. Gluckman, M. Peters and C. Trapnell, Land Holding and Land Usage among the Plateau Tonga of Mazabuku District (Cape Town, 1948), 13.

<sup>47</sup>A. Richards and E. Widdowson, op.cit., 194.

<sup>48</sup>B.P. Thomson, op.cit., 50.

<sup>49</sup>J. Brock and M. Autret, Kwashiorkor in Africa (Geneva, 1952), 46.

Kwashiorkor has a number of effects. These include retardation of growth, gastro-intestinal disorders, mental apathy and dyspigmentation of the skin. It is a major cause of high mortality rates among children.<sup>50</sup> Kwashiorkor appears to be widespread in Central Africa. The W.H.O. report on Kwashiorkor states that if dyspigmentation of the skin is an expression of the disease then "In many parts of Central Africa the majority of children in the second and third year of life suffer from Kwashiorkor."<sup>51</sup>

Although protein appears to be the major element lacking from diets, other deficiencies contribute to the general disproportion of foods consumed. Bemba diet, for example, is "strikingly deficient in fat",<sup>52</sup> and B.P. Thomson writes of the Lala that "fat is sadly lacking in all diets. Ground-nuts are the main source, but the amount eaten probably averages about 5 to 10 pounds per head per year".<sup>53</sup> Diseases due to vitamin deficiency occur in localised areas. Allen *et alia* point to such deficiencies among the Plateau Tonga where "a large proportion of the people are suffering from diet deficiency conditions, including, what we believe to be incipient scurvy".<sup>54</sup> Diets are also deficient in riboflavin<sup>55</sup> due to the general scarcity of animal and dairy products.

<sup>50</sup> Ibid.

<sup>51</sup> Ibid., 34.

<sup>52</sup> A. Richards and E. Widdowson, op.cit., 194.

<sup>53</sup> B.P. Thomson, op.cit., 50-51.

<sup>54</sup> Allen *et alia*, op.cit., 13.

<sup>55</sup> A Vitamin present in liver, milk, eggs and green vegetables, a deficiency of which retards growth.

While, therefore, lack of medical investigations and dietary surveys make it impossible to assess the exact extent of nutritional deficiencies in Central Africa, on the basis of the data available there seems little doubt that both undernourishment and malnutrition are widespread.



## II

### FOOD HABITS

The diet of any group is not to be equated with the consumption of food resources available to it. For any group of people there will be found some pattern, some organisation and some rhythm in the consumption of food. Moreover, they may be expected to share beliefs about the qualities of different foodstuffs, to define food in a similar way, and to share certain attitudes towards it. This similarity in habits, beliefs and attitudes is not instinctive, for other groups of people with similar nutrition needs and similar food resources may well have widely different habits, beliefs and attitudes.

Although the need for food is biologically determined it can be satisfied in a variety of ways. The nutritionist R. S. Goodhardt writes: "There is no single pattern of diet which must be followed to insure good nutrition".<sup>1</sup> Over time each group of people has evolved certain standardized ways of meeting this need, some classification of foodstuffs and some common beliefs about their properties. These have been passed on, relatively unchanged, from generation to generation not through biological but through cultural inheritance. They are transmitted through the process of socialisation.

Born with the need for food but without habits, beliefs and attitudes, the child learns to accept or reject part of the available

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<sup>1</sup>R.S. Goodhardt, "Criterion of an Adequate Diet," in M.G. Wohl and R.S. Goodhardt, eds., Modern Nutrition in Health and Disease, 3rd ed., (Philadelphia, 1964), p.617.

resources as edible or inedible. He learns to value some items of diet more highly than others and comes to view certain foods as suitable for particular people or particular occasions. The food he eats, its production, distribution, preparation and consumption are all governed by rules common to the group to which he belongs. Although he may have certain likes or dislikes even these may be learned, for little choice remains for the individual. Cussler and DeGive stress this:

The local culture sifts and selects until only certain foods remain open to individual choice. These foods are ranked more or less definitely until the final choice available for an individual's acceptance or rejection on the basis of experience is relatively limited, for even these experiences themselves are subconsciously colored by common sentiment about foods.<sup>2</sup>

Although the diet of a group obviously depends upon the total food resources at its disposal, the relation between diet and available food supplies is not a direct one, for between them are the food habits, beliefs and attitudes of the group. These can, in fact, be viewed as a filter lying between the biological need for food and its satisfaction through the available food supplies. It is these food habits, values and beliefs which are the object of study in the cultural approach to diet. Nutritionists can define food needs, agriculturalists can show what foods are, or can be, produced; the contribution the cultural anthropologist can make to the study of nutrition lies in the investigation of the standardized ways in which available food supplies are

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<sup>2</sup>M. Cussler and M. DeGive, Twixt the Cup and the Lip (New York, 1952), 20.

used to satisfy nutritional needs.

Not only is food selected in accordance with learning, manifested in common beliefs and practices, but its production, distribution, preparation and consumption are also culturally regulated. The amount of food produced depends on technology, soils and climate, but also on such cultural factors as the organisation of labour, stimulus to production and assessment of needs. The distribution of food takes place in accordance with rules, so that the amount and type of food an individual receives depends on his position in society. Even the way in which food is prepared and the frequency of preparation is standardized.

Viewed in this way the significance of the cultural approach to nutrition is clear. If what an individual eats is determined to such an extent by learned habits, beliefs and attitudes, it is essential to know what these are, how they operate and how they affect diet. Where nutritional deficiencies occur it is possible that the cause may lie not in the inadequacy of food supplies, but in the beliefs, habits and attitudes which govern their use.

The aim of this chapter is to examine the food habits of the selected Central African tribes, showing the way in which cultural factors affect diet at each stage of the process, from the selection of foods, through production, distribution and preparation, to the final consumption of food. It will be stressed that food habits and values do not form an isolated system but are integrated with other behaviour and value patterns in society. Kinship relations, the division of labour, political rights and duties, ritual values and



concepts of hospitality and ownership will be shown to be closely related to diet. Attention will be given to the ways in which they affect nutrition.

#### SELECTION

No group uses all the food resources at its disposal, for some selection is always made. Certain foodstuffs are included in the cultural definition of food while others are rejected as inedible, either for the whole group or for certain parts of it. The environmentally available food supply is thus limited to one which may be called culturally available. This has obvious implications for nutrition as, for example, where certain foods, considered necessary by nutritionists for the health of the group, are not included in the cultural definition of food and are thus excluded from diet. Audrey Richards has drawn attention to this problem. She writes: "There is no doubt that where a particular class of foods is tabooed permanently to a whole community or to a large section of it, such as a clan, age grade, or to the different sexes, the matter becomes important from a nutritional point of view".<sup>3</sup>

Food taboos are not as widespread in Central Africa as they are in many other parts of the continent. Most food taboos there take the form of individual rather than group restrictions and arise from the conviction that particular foods bring bad luck and illness.

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<sup>3</sup>A. Richards, Land, Labour and Diet in Northern Rhodesia (Oxford, 1939), 61-62.

Elizabeth Colson reports that among the Plateau Tonga such restrictions are very common and that they are "still of considerable importance in determining what is eaten."<sup>4</sup> If someone is ill a diviner may attribute the illness to the eating of a certain food, which is, from then on, avoided by the patient. She gives the example of the girl whose barrenness was attributed to her eating chicken and fish and who refused them on these grounds. A patient may also be told that a medicine will work only if accompanied by the avoidance of certain foods. These restrictions are so common that nearly every family has at least one member who must avoid a certain food or foods, and in many cases the problems of the housewife are aggravated by the fact that different members of the family must avoid different foods.<sup>5</sup>

Individual restrictions are common among the Bemba too:

Certain individuals regularly abstain from one or more types of relish. Such restrictions may be the result of an order given by a native doctor who may make the cure conditional on the regular observance of a food taboo, or it may follow the individual's own conviction that a particular food eaten on some memorable occasion has brought him ill luck and is therefore likely to do so again. In some cases one whole family (ulupwa) may avoid one type of relish.<sup>6</sup>

Chiefs are also subject to a number of additional food taboos which stem from the belief that certain animals pass on their characteristics to those who eat them, and that these might adversely affect the health and powers of judgement of those who rule.<sup>7</sup>

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<sup>4</sup>E. Colson, "Plateau Tonga Diet", Human Problems in British Central Africa, XXIV (1958), 59.

<sup>5</sup>Ibid, 60.

<sup>6</sup>A. Richards, op.cit., 62.

<sup>7</sup>Ibid, 62.

Foods which are avoided by the whole society or by large groups within it are of greater nutritional significance than are individual restrictions. In Central Africa, certain creatures fall outside the definition of food, these include monkey, baboon, dog, cat, hyena, crocodile, snake, lizard and frog.<sup>8</sup> The Plateau Tonga refuse goats' milk on the grounds that it will turn their hair to a brown colour.<sup>9</sup> It is interesting to note that while the domestic pig is not included in the Plateau Tonga definition of food for themselves, as it is considered a dirty animal, they accept the fact that it is food for Europeans and are beginning to keep it for sale to them.<sup>10</sup>

Eggs, and, less frequently, chicken are commonly avoided by women. B.P. Thomson reports that Lala women will not eat hens although they are eaten by most of the men and, furthermore, "There is a taboo on women and girls eating eggs (it is said to make them sterile), that is still generally observed."<sup>11</sup> These are often refused by Plateau Tonga women too,<sup>12</sup> although this taboo is breaking down in more progressive communities. Such avoidances may have little nutritional significance where there are alternative foodstuffs; as mentioned in Chapter One, however, meat and fish are scarce and the refusal of women to eat eggs denies them a valuable source of protein in which diets are particularly deficient.

<sup>8</sup> E. Colson, op.cit., 59.

<sup>9</sup> Ibid., 59.

<sup>10</sup> Ibid., 59

<sup>11</sup> B.P. Thomson, Two Studies in African Nutrition (Manchester, 1954), 42.

<sup>12</sup> E. Colson, op.cit., 59.



Nutritionists and medical officers, working in Africa, have found that food taboos have serious effects on health. Nutritionally valuable foodstuffs are excluded from diet even in societies characterised by malnutrition and undernourishment. One such case is the Zulu community in Polela, South Africa. The team sent there to improve health and nutrition found that the community was severely malnourished even though there were resources available which would have been valuable additions to diet.

Particularly harmful to health were taboos which prevented the use of milk and eggs. Although 90% of the families surveyed kept chickens, eggs were infrequently eaten. This was traced to the view that it is uneconomical to eat eggs which later become chicken, that egg-eating is a sign of greed and to the belief that eggs make girls licentious. More serious was the almost total exclusion of milk from the diet of women. This arose from the belief that during her menses or when pregnant a woman has an evil influence on cattle and must not drink their milk. Milk is, therefore, almost totally excluded from the diet of women past puberty. Furthermore, the Zulu practice by which only members of the kin group of the owner of the cattle may drink their milk bars it to women on another ground, for marriage is virilocal and a woman lives with her husband's kin group and is, therefore, prevented from using its milk supplies. Despite efforts by the Polela nutritional team to discourage these beliefs, it is reported that "Many people, particularly the women, still do not



make the best use of available milk supplies."<sup>13</sup>

Hope Trant, a doctor attached to the East Africa Medical Survey, also draws attention to the interference of food taboos with the satisfaction of nutritional needs and shows the seriousness of the reduction of the food supply to one which is culturally available. She reports that among the Mwimbi chicken, eggs, white ants and birds are forbidden to all circumcised men and women. Furthermore, circumcised young men are forbidden all vegetables and intoxicating liquors, while the tribe as a whole must avoid all wild animals and creatures which live in water. She adds that wild animals are eaten by the hunters alone, and when they want to come back to communal life they must be ritually cleansed.<sup>14</sup> Similarly, among the Bahangaza tribe chicken and eggs are not eaten as they are used by witch doctors for divination, sheep and lambs were not eaten until recently, as they are used to remove evil spirits, and fish is still avoided by the majority of people.<sup>15</sup>

In particular, food taboos fall on women, especially those who are pregnant and whose food needs are, therefore, even greater.

Dr. Trant writes:

The lot of the pregnant woman is especially hard. Not only is she denied all the foodstuffs denied other women, but during her pregnancy she is subjected to extra taboos, either for fear of the effect of certain foodstuffs on the unborn child, or to guard against trouble during her pregnancy or confinement<sup>16</sup>

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<sup>13</sup>J. Cassel, "A Comprehensive Health Program among South-African Zulus," in Health, Culture and Community, ed., B.J. Paul, (New York, 1955), 29.

<sup>14</sup>Hope Trant, "Food Taboos in East Africa", The Lancet, (October 2, 1954), p.704.

<sup>15</sup>Ibid.

<sup>16</sup>Ibid.

Burke and Stuart draw attention to the extra nutritional requirements during the second half of pregnancy and during lactation, and point out that faulty nutrition at this time may well adversely affect both woman and child.<sup>17</sup> The F.A.O. Africa Survey also draws attention to the detrimental effects of food taboos on diet and health. It reports that the most serious from the nutritional point of view are "those which cover the consumption of milk by the vulnerable groups of the population. Almost everywhere most animal products are excluded from the diet of pregnant women, nursing mothers and children".<sup>18</sup>

It is clear that consideration of such cultural factors as taboos is essential in attempts to improve health and nutrition. This has not always been given. Dr. Trant writes:

The first aim of a nutrition survey should be to find out why the people, or some of the people, are malnourished; and one cause of malnutrition, which investigators who have not lived in the tropics are apt to overlook, is food taboos. The importance of these restrictions has been greatly underestimated in the past, for the force of these taboos may lead to people living hungry in the midst of plenty.<sup>19</sup>

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<sup>17</sup>B. Burke and H. Stuart, "Nutritional Requirements during Pregnancy and Lactation", Journal of the American Medical Association, CXXXVII (1948), 121.

<sup>18</sup>F.A.O., Africa Survey (Rome, 1962), 27.

<sup>19</sup>H. Trant, op.cit., 703.

Food taboos, therefore, contribute to dietary deficiencies by limiting the food supply to a culturally available food supply, thus excluding nutritionally valuable foods from diet. Another source of failure to utilize all the available food resources lies in the fact that many foods are used for non-nutritional purposes and in some cases these outweigh, in native eyes, their use as food.

In no society is food viewed solely as a means of satisfying hunger. In these societies in particular, which until recently have lacked money, where material possessions are very limited and where hunger is always a possibility, food assumes a very particular significance and value. This value stems not only from its dietary use but also from the non-nutritional uses to which it is put. Many of these uses have little effect on diet and merely involve a redistribution of food; on the other hand, there are a number of uses which not only affect the value food is given but also directly interfere with its role in satisfying hunger. These will be considered below together with their effect on diet.

Firstly, food is often considered as wealth and as such gives rise to a conflict between accumulation and consumption. This is particularly true among those people whose most valued possessions are cattle. The Ngoni are traditionally a cattle people and more like the peoples to the East and South in their attitude to them than to their Central African neighbours, who regard themselves primarily as agriculturalists. Among the Ngoni high status and the possession of large herds of cattle are synonymous and in former times cattle keeping



was a prerogative of the aristocracy.

The Ngoni have been frequently criticised by Europeans, on the grounds that, despite their large herds, they consume little meat and milk. Their failure to use the available resources can be related to the fact that cattle are valued primarily for their social rather than dietary role. The building up of herds is considered of such importance that cattle are rarely killed for meat, and milk which could add considerably to diet is left entirely to calves.<sup>20</sup> Margaret Read, who did field-work among the Ngoni, reports:

One of the embarrassments suffered by an anthropologist was being presented with a beast by people who hardly ever killed one for their own use. It was true that a general share-out took place when the beast was killed, but it was none-the-less one beast fewer in the herd, and it was the maintenance and increase of the herds which was the cattle-owners' chief concern.<sup>21</sup>

Although the accumulation of herds in itself brought status to the owner, this was not the only reason for which cattle were valued. There were a number of purposes for which cattle were essential: marriage was concluded by the transfer of bridewealth in the form of cattle. This not only established the legality of the marriage but also assured the father of rights over the children and a claim on them if the marriage broke up. Compensation for any infringement of the law was paid in cattle too. Furthermore, not only were cattle a valuable asset in life but they were essential at death: a man was buried in the skin of one of his cattle and cattle were used at every stage of the funeral proceedings.<sup>22</sup>

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<sup>20</sup>M. Read, The Ngoni of Nyasaland (Oxford, 1956), 173.

<sup>21</sup>Ibid., 173.

<sup>22</sup>Ibid., 177-178.



The Plateau Tonga also value their cattle largely for their social rather than dietary role. Bridewealth is traditionally paid in cattle, all rites de passage are accompanied by the killing of a beast, cattle are paid in compensation for adultery, theft, wounding and murder, and reciprocal herding arrangements bind kinsmen and friends together.<sup>23</sup>

Although cattle are the best example of value stemming from social rather than dietary role, even chicken and goats are viewed in this light. Audrey Richards reports that among the Bemba domestic animals such as goats, sheep and chicken are kept, but in no case primarily for meat:

Goats or sheep may be given as a present to a chief or a European, dedicated to an ancestral spirit after a successful recovery from illness, or given as compensation to an injured person for the loss of a limb or an eye. They may be killed and used as meat, but always on some such ceremonial occasion, never in case of pure hunger. Chickens are more numerous and less valuable, but even then a chicken is never killed 'just for food', even in the hunger season.<sup>24</sup>

It may be argued that these non-nutritional uses have little effect on diet, as eventually the animals are eaten anyway. A number of points can be made to counter this argument: firstly, as we saw among the Ngoni, the fact that the growth of the herd was the major interest meant that milk supplies were almost exclusively denied to the

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<sup>23</sup>E. Colson, "The Role of Cattle among the Plateau Tonga of Mazabuku District", in The Plateau Tonga of Northern Rhodesia (Manchester, 1962), 141-142.

<sup>24</sup>A. Richards, Land, Labour and Diet in Northern Rhodesia (Oxford, 1939), 63.

human population. Secondly, although the total consumption of meat may not be affected by these uses, they may result in a great irregularity of supply. Animals are not killed on a regular basis, for their slaughter must be justified by a ceremony. Meat consumption is thus concentrated into a short period at a feast, leaving long periods without any meat consumption at all. The Plateau Tonga meat supply is, as E. Colson remarks, "irregular with long meatless periods intervening between days of abundant meat".<sup>25</sup> From the nutritional standpoint a regular supply of animal protein would be more valuable.

Furthermore, the fact that certain foodstuffs have a social as well as dietary role stands in the way of the full exploitation of their nutritional potential. The Plateau Tonga are far more interested in the beauty, size, colour and strength of their cattle than they are in their food value. Elizabeth Colson reports, "I have yet to hear them comment on milk records or beef production as criteria affecting their judgements of particular beasts."<sup>26</sup> The social importance of cattle stands in the way of improvement of their herds. The land is clearly overstocked yet the Plateau Tonga are unwilling to reduce the numbers of cattle. They, themselves, see the deterioration of herds and the connection between this and over-stocking. To the Plateau Tonga, however, cattle mean more than a source of food and they are, therefore, willing to accept their

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<sup>25</sup>E. Colson, "Plateau Tonga Diet," Human Problems in British Central Africa, XXIV (1958), 63.

<sup>26</sup>E. Colson, "The Role of Cattle among the Plateau Tonga of Mazabuku District," in The Plateau Tonga of Northern Rhodesia (Manchester, 1962), p.141.

situation where more hens appear to be eaten by hawks and wild cats than by the human population.<sup>31</sup>

Cultural factors, beliefs, habits and values have clearly prevented the maximum utilization of the available food resources. Diet is based, not on the total food supply, but on that part of it which is culturally edible. Even in societies where malnutrition and hunger exist some food-stuffs are valued more for their social than for their dietary role.

### PRODUCTION

Production of food, no less than selection, depends on both the environment and on the traditional habits, beliefs and attitudes of the group which exploits it. The food produced is as much a result of the standardized ways in which the environment is exploited as it is of climate and soils.

These Central African tribes are primarily cultivators. Their technology is rudimentary and until recently the aim of their production was solely to supply their own needs. Now tribes in favourable situations, particularly the Plateau Tonga and the Ngoni, have started to produce cash crops for the market.

Shifting cultivation is practised throughout the area. This has been defined by K. L. Pelzer as:

an economy of which the main characteristics are a rotation of fields rather than crops; clearing by means of fire; absence of draught animals and of manuring; use of human labour only; employment of the dibble stick or hoe, short periods of soil occupancy alternating with long fallow periods.<sup>32</sup>

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<sup>31</sup>B.P. Thomson, op.cit., 42.

<sup>32</sup>K. L. Pelzer, Pioneer Settlement in the Asiatic Tropics (New York, 1954), quoted in C. Clark and M. Haswell, The Economics of Subsistence Agriculture (London, 1964), 33.



classify types of soil and through their knowledge of vegetation are able to judge their fertility. The selection of a site is not, however, just a matter of maximizing food production. The possibility of increased food supplies is not always sufficient to outweigh the social advantages of an inferior site. Some Bemba headmen, for example, continue to cultivate the same site for political and religious reasons, while others, despite their knowledge of soils, build their village on a worn-out site near to a road or a white settlement.<sup>36</sup> Clearly, knowledge of ways of increasing food production, even in societies which experience malnutrition and undernourishment, does not always lead to their implementation.

The supply of food which is produced depends not only on environment and methods of production but also on cultural factors. Subsistence cultivation, no less than other forms of production, demands cooperation. Cutting trees, clearing land, harvesting, hunting and fishing are all tasks which involve the labour of more than one man. In contrast to the towns, where cooperation is based on impersonal contract, in the rural areas, recruitment to the work group is still based on personal ties and reciprocity. The two principles of kinship and locality tend to be mutually reinforcing as throughout Central Africa those who live together are also connected through kinship ties. The unit of cooperation is, therefore, based not on kinship alone, but is composed of kinsmen who live sufficiently near each other to make cooperation possible.

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<sup>36</sup>A. Richards, op.cit., 277-278.



The minimum work unit is one man and one woman, husband and wife, for although the sexual division of labour is not as rigid in Central Africa as it is in many other areas, there are tasks which are more suited to one sex. Tree-cutting, hunting and fishing are the work of men, while women have the tasks of piling the branches ready for burning, domestic work and harvesting. Agricultural work, sowing and hoeing, are done by both men and women. This minimum unit is not enough for clearing fields and weeding however. For these tasks greater cooperation is needed.

Traditionally all Central African peoples live in villages. They are never large enough to be called towns, as are some West African settlements, nor are they as small as the Zulu homesteads to the South. The central core of the village is composed of a group of kinsmen who are usually related in some way to the headman. The actual composition varies according to particular rules of descent and residence. Only rarely does the village as a whole act as a productive unit, although hunting, fishing and herding of cattle are sometimes carried out in common.

The composition of work groups varies between tribes. The Bemba, Plateau Tonga and Lala all trace descent matrilineally, but whereas Bemba and Lala marriage is uxorilocal and the residence group thus composed of a man and his wife, unmarried children, married daughters, their husbands and children, among the Plateau Tonga the residence rule is vague and the residential unit as likely to include sons and their families as daughters and theirs. The work group of the Bemba and Lala is composed

of a man and his sons-in-law, while the women who work together are usually close matrilineal relatives: mother and daughters or sisters. The village as a whole joins together only in hunting, fishing and labour for the chief.

The Mambwe, in contrast, trace descent patrilineally and marriage is virilocal, the effective unit being the localised section of a patrilineage, the members of which live and work together. Village cooperation is very close, for in addition to the usual joint village activities of hunting, fishing and herding of cattle, the village as a whole cooperates in agricultural work. As Watson writes: "village membership ensures that a man's family becomes part of a corporate working group".<sup>37</sup> The Ngoni, too, are traditionally a patrilineal, patrilocal people and the core of the Ngoni village is composed of a headman and his family and a group of people related to him through agnatic ties. The Ngoni have, however, been influenced by the surrounding matrilineal peoples and although marriage is predominantly virilocal, the work group appears to be a group of relatives connected through any line who share a common ancestor and who live sufficiently near to be able to cooperate.<sup>38</sup>

A comparison of production between the Bemba and the Mambwe suggests that production is affected by the composition of the work-group. As mentioned, these neighbouring tribes have similar environment,

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<sup>37</sup>W. Watson, Tribal Cohesion in a Money Economy (Manchester, 1958), 106.

<sup>38</sup>J.A. Barnes, "The Fort Jameson Ngoni", in E. Colson and M. Gluckman, eds., Seven Tribes of British Central Africa (Manchester, 1951), p.219.

technology and methods of production, but differ in rules of descent and residence, and in the composition of the group who cooperate in agricultural tasks. The Mambwe, in contrast to the Bemba, are patrilineal and virilocal; their work group is composed of a group of men who are agnatically related, while among the Bemba, matrilineal and uxori-local, it is composed of a group of men who are linked through affinal ties. The Mambwe village is more stable and cooperation between its members closer. While work parties are called together only occasionally among the Bemba for particular tasks, among the Mambwe "the work party is the fundamental method of production."<sup>39</sup> It is possible that cooperation is easier among a group of agnates than between a group of in-marrying affines.

It is in the situation of labour migration that the contrast in organisation between the work groups of the Bemba and Mambwe is most pronounced. The greater degree of cooperation among the Mambwe has enabled them to adapt more favourably to this new situation than the Bemba. Departure of Mambwe men to the towns is so organised that villages do not lose all their men at the same time. Bemba men, on the other hand, are unable to prevent the simultaneous departure of their sons-in-law, and the total work of the village is often left to women and old men who cannot cope with the hard work of cutting branches off trees and stacking them for burning. Watson remarks that he once "visited a Bemba village which had only one elderly man to carry out the tree-cutting for a whole village of some twenty huts, and the women

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<sup>39</sup>W.Watson, op.cit., 107.

<sup>40</sup>W.Watson, op.cit., 112n.



were forced to hire the labour of men from other villages to get  
<sup>40</sup>the gardens made." The organisation of the Mambwe work group  
 had enabled it, therefore, to withstand the absence of men, while  
 that of the Bemba has frequently collapsed under the strain. For  
 the Bemba, labour migration has meant a severe cut in production  
 and in the food supply. This has intensified the seriousness of  
 the hunger period.

Incentives to production and the value given to the accumula-  
 tion of large food supplies affect the amount of food produced. In  
 Central Africa there is little social advantage to be gained from a  
 surplus of food. In fact, rules of distribution make it generally  
 unrewarding to produce much more than one's kinsmen and neighbours.  
 Neither is hunger a stimulus to production. The Bemba, we learn,  
 "do not find the fact that they have too little to eat a shocking  
 situation" for they consider it normal for food to be scarce.<sup>41</sup>

In line with this viewpoint, hard work is not regarded as  
 a virtue and only the minimum considered necessary is done. The  
 chief or headman, however, adds some stimulus to production. In  
 Central African societies political leadership and ritual leader-  
 ship are exercised by the same man, upon whom falls some responsibility

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<sup>40</sup>W. Watson, op.cit., 112n.

<sup>41</sup>A. Richards, Land, Labour and Diet in Northern Rhodesia  
 (Oxford, 1939), 399.



for the organisation of production. The Bemba chief sets the time for burning branches and initiates each stage in the agricultural cycle. Moreover, cultivation in his own fields provides some pattern to be followed by his people. Each stage in production is accompanied by the appropriate ritual which stresses the importance of agricultural production and draws attention to a new stage of the cycle. Malinowski first pointed to the economic function of ritual. Central African data supports his point. Audrey Richards writes: "The fact that each process of cultivation is preceeded by its appropriate ceremony does act, I think, as a sign to laggards that the season, whether of bush-clearing or sowing, has begun."<sup>42</sup>

In sum, it is unrealistic to calculate the amount of food which can be produced in a given environment with a given technology. Attention must be paid to the values and practices of those who exploit it, for they affect both the incentives to production and the efficiency of its methods.

#### DISTRIBUTION

Even if the amount of food produced is sufficient to cover nutritional needs of the group as a whole, the possibility of nutritional deficiencies cannot be ruled out, for customary rules of distribution affect both the quality and quantity of the food which an individual receives. In every society there are foods

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<sup>42</sup>A.Richards, op.cit., 355.

which are valued more highly than others and status distinctions within the society are reflected in the differing claims which individuals have upon them. Moreover, in societies where there are food shortages, such distinctions give rise to differences in the amount of food available to an individual. In Central African societies status distinctions are based on the principles of rank, age and sex. We will examine the extent to which they are reflected in the type and amount of food which an individual receives.

Differences in rank are more pronounced among the Ngoni than the other tribes dealt with in this study. Ngoni society traditionally had a cattle-owning aristocracy who had a diet relatively rich in meat, milk and blood, foods which the Ngoni value most, while the diet of the common man was largely vegetable. We learn that the Ngoni rationalized this system of distribution by arguing that a diet of meat, milk and blood made the young warriors strong, while the claims of the aristocracy to such a diet was justified on grounds that it gave them longevity, wisdom and strength, characteristics which are necessary in a ruling group.<sup>43</sup>

The Bemba do not stress rank distinctions as much as the Ngoni, and such distinctions as there are do not give rise to

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<sup>43</sup>M. Read, The Ngoni of Nyasaland (Oxford, 1956), 172.

widely different diets. Although chiefs, courtiers and their families tend to eat rather better than the average man and lavish hospitality is often described as "housekeeping after the fashion of the capital,"<sup>44</sup> on the whole there are no wide disparities in either the type or amount of food consumed. Rank differences are, however, reflected in the regularity of the food supply.<sup>45</sup> As mentioned above, the Bemba suffer a hunger period each year during which intake falls considerably. The fact that chiefs and headmen have larger food reserves and that they can, if in need, ask their villagers for food ensures that during this period they enjoy a somewhat superior diet.<sup>46</sup>

Age and sex distinctions too are reflected in both type and amount of food. It was noted that food taboos fall especially heavily upon women and that the kinds of food most frequently tabooed are meat, milk and eggs, from the nutritional standpoint the most valuable. Even when these foods are not restricted to women by taboos, rules of distribution usually mean that they receive considerably smaller portions. Bemba men, for example, always receive a larger share of meat or of any other umunani<sup>47</sup> and Plateau Tonga

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<sup>44</sup>A. Richards, Land, Labour and Diet in Northern Rhodesia (Oxford, 1939), 35.

<sup>45</sup>Ibid., 34-35.

<sup>46</sup>Ibid., 194.

<sup>47</sup>Ibid., 35.



women keep a small supply of meat for their husbands while they and their children eat vegetables.<sup>48</sup>

Although children are not subjected to such rigid taboos as adults, their diets are more deficient than those of any other sector of the population. A number of cultural factors contribute to this: beliefs about the dietary needs of children, the priority in distribution given to adults, and the fact that no special dishes are prepared or set aside for them.

In Central Africa it is uncommon for babies to be weaned before the age of two or three years, and there is a general taboo on the mother conceiving again until this stage is reached. The Bemba, however, do not believe that milk is food or that babies can live on it alone; the child is therefore fed with a mixture of flour and water which is "literally rammed down the baby's throat in spite of its protests".<sup>49</sup> Lala children are not given meat or fish until they are able to chew and until then are fed largely on porridge. During weaning, therefore, diet is composed of starchy foods and children are frequently malnourished. The W. H. O. report on Kwashiorkor draws attention to these deficiencies of infant feeding and stresses that "it is during the critical period of weaning that the needs of the growing child

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<sup>48</sup>E. Colson, "Plateau Tonga Diet", Human Problems in British Central Africa, XXIV, (1958), 61.

<sup>49</sup>A. Richards, op. cit., 69.



are most exacting and least likely to be fulfilled".<sup>50</sup>

Food is neither specially prepared nor set aside for children. The fact that the preparation of food is a long and arduous task and that, in these societies, agricultural work falls upon women, no doubt contributes to a situation where women have no time to devote to the preparation of special meals. Adults, particularly men, have priority in the distribution of food. The diet of children, who come last in the line, is thus largely composed of foods left over from the adults' meal; such remains are usually starchy and rarely include umunani. Even when children are permitted to dip into the family bowl, their portions are not the best, for etiquette demands that they merely moisten their ubwali with umunani, while older men may make a hollow spoon with which to pick up as much umunani as possible.<sup>51</sup> The amount of umunani one may have is thus related to age and sex.

A survey of Lala diet shows very clearly that men usually have enough food at the expense of women and children. In all the villages examined by B.P. Thomson, she found that calorie requirements of the men were met or nearly met, while women and children suffered considerable calorie deficits. The average calorie intake for the three villages examined was 64% of the

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<sup>50</sup> J. Brock and M. Autret, Kwashiorkor in Africa (Geneva, 1952), 36.

<sup>51</sup> A. Richards, op.cit., 76.

estimated requirement. The distribution of food was such, however, that men had more than sufficient calories to meet their requirements (106% intake as per cent. of requirement) while women and children received only 56% of their estimated requirement.<sup>52</sup>

So far we have concentrated on rules of distribution which produce differences in the type and amount of food available to an individual. A typical feature of these societies, on the other hand, is the overall equality of food available to different households. We will now consider how this comes about.

There are, in these societies, clear rights of individual ownership which apply to food as well as to other property. The labour which a man gives to the production of crops gives him rights over them and similarly in hunting the man who kills an animal has a right to it. There are, however, rules of distribution which modify these rights and work towards an overall equalization in the distribution of food. Among the Bemba, for example, the man whose labour produces the crop is its owner, but his close relatives may help themselves to some of it in time of need, while his older relatives have rights over his granary, on which they may draw at any time.<sup>53</sup> Although the hunter is the owner of the beast he kills, others have claims on it: the chief should be given a part as a sign of respect, and the remainder should be divided between

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<sup>52</sup>B.P. Thomson, Two Studies in African Nutrition (Manchester, 1954), Table II, 51.

<sup>53</sup>A. Richards, Land, Labour and Diet in Northern Rhodesia (Oxford, 1939), 186.

the hunter's kinsmen.<sup>54</sup> Ownership does not, therefore, imply the absence of claims upon property on the part of others.

Equality in distribution is brought about largely through kinship obligations expressed in the form of hospitality. The unit of consumption is rarely the individual household but rather a group of households which share their food supplies. Households are linked through kinship to others in the village so that there exists a network through which food is distributed. Such an arrangement ensures that as long as there is food in the village no family will be without. From this point of view, the village as a whole can be regarded as the unit of consumption. Among the Mambwe, for example, "Hospitality is enjoined and there is wide sharing of food. Although the principles of individual ownership are quite clear, villagers draw from a common stock of food."<sup>55</sup> Similarly among the Lala "There is so much interchanging of food within the village that it is unlikely that any one group would go short if food was available, and so for production it is the village not the family that should be considered the minimum unit."<sup>56</sup>

Kinship ties extend even beyond the village and result in further distribution of food. If the crops in one village fail or are destroyed, the network of kinship links which extends over the

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<sup>54</sup> Ibid., 345.

<sup>55</sup> W. Watson, Tribal Cohesion in a Money Economy (Manchester, 1958), 34.

<sup>56</sup> B.P. Thomson, op.cit., 46.



whole district ensures that help will be received from kinsmen in other parts.<sup>57</sup>

Such rules of distribution mean that there are no great disparities in the consumption of food within a village. Audrey Richards found that this custom of hospitality also means that the daily consumption of food by each household varies considerably. The same quantity of food is prepared each day but the number of people who consume it fluctuates. She writes: "I have known the numbers fed by one woman to vary from five to fifteen in the course of a week".<sup>58</sup>

The role of the chief as the centre of distribution for the tribe contributes to the general equality of distribution. The Bemba chief is, in theory, the owner of the land and as such is entitled to the food produced upon it.<sup>59</sup> As acknowledgement of this, his subjects are obliged to provide him with food on his journeys around his kingdom and in the form of a regular annual tribute. His aim is not, however, to accumulate but rather to redistribute, and the supply of food which he receives finds its way back to his people at feasts, in reward for services, and in gifts of food to those who need it. A hungry man has the right to food from the chief.<sup>60</sup>

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<sup>57</sup>A. Richards, Land, Labour and Diet in Northern Rhodesia (Oxford, 1939), 109.

<sup>58</sup>Ibid., 151.

<sup>59</sup>Ibid., 250.

<sup>60</sup>Ibid., 264.



The Ngoni chief plays a similar role: with the food received as tribute he feeds his entourage and visitors, see that no one is left hungry and, in addition, holds feasts for his people which show "the reciprocal nature of the gifts passing between people and paramount. [chief]"<sup>61</sup> The effect of this aspect of the chief's role is, therefore, to further equalize the food supply of his subjects.

The amount of food available to any household thus depends not only on the amount of food produced but also on the rules of distribution which govern its use, while that available to an individual depends on his status.

#### PREPARATION

Preparation of food, like selection, production and distribution, is culturally regulated. The methods used, the organisation of work and the frequency with which meals are prepared conform to certain patterns. Customary methods of preparation are of importance since they affect the nutritional quality of food. The Plateau Tonga housewife, for example, grinds her flour for hours since her efficiency is judged on its whiteness.<sup>62</sup> Of relevance, too, is the fact that food is generally cooked in Central Africa, as it is disliked in its raw state. Customs like these are clearly of nutritional significance.

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<sup>61</sup>M.Read, The Ngoni of Nyasaland (Oxford, 1956), 67.

<sup>62</sup>E.Colson, "Plateau Tonga Diet," Human Problems in British Central Africa, XXIV (1958), 53.

The way in which the preparation of food is organised is of more direct interest to the anthropologist. Preparation of food in these societies is no easy matter: grain must be ground, ingredients for umunani collected and prepared, wood and water collected and ubwali cooked. Audrey Richards has estimated that an average of three hours is needed for these tasks.<sup>63</sup> This is, in fact, a heavy strain on women whose other tasks include agricultural work, cleaning and care of children. Generally, however, the preparation of food is not an individual but group task in which a number of related women cooperate. Such cooperation has undoubted advantages: work is less arduous in company, preparation is more economical and the integration of cooking with agricultural work easier.

The role which women play in agriculture in these societies places certain restrictions on the preparation and consumption of food. It implies concentration on a single daily meal, for agricultural work often makes it impossible for women to prepare meals more often. The main meal is thus taken in the evening, while during the day food is usually composed of quickly-prepared snacks. At times agricultural work may totally prevent the preparation of food, particularly at busy times in the

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<sup>63</sup>A. Richards, Land, Labour and Diet in Northern Rhodesia (Oxford, 1939), 104.

agricultural cycle. If the Lala woman has been working in the fields all day she may not bother to prepare food: the work involved in finding ingredients for umunani and grinding flour may be too much for her.<sup>64</sup> Similarly Audrey Richards reports of seeing Bemba women who were just too tired to prepare food sitting hungry though food supplies were available.<sup>65</sup> The frequency and regularity of consumption is thus affected by the division of labour.

We have, therefore, seen how each stage in the process leading to the consumption of food by the individual depends, not only on the natural environment in which he lives, but also on the beliefs and practices of the society to which he belongs; his cultural environment. This has been shown to affect the composition of his diet, the amount he eats and the frequency of consumption.

Any diet must, of course, be based on the available food-stuffs, but from knowing what these are, we cannot deduce what the diet of any individual will be. As a member of society the individual shares a certain definition of food with other members. This definition includes some of the available resources but

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<sup>64</sup>B.P. Thomson, Two Studies in African Nutrition (Manchester, 1954), 47.

<sup>65</sup>A. Richards, op.cit., 105.



excludes others as inedible. The composition of diet depends too on sex, age and rank, since specific taboos and rules of distribution result in the differential consumption of particular foodstuffs. Social distinctions are thus reflected in the composition of diet. Similarly, the amount of food which an individual consumes depends on cultural factors: the quantity of food produced is related to the value put upon accumulation, to traditional assessments of need and to incentives to work. The proportion of this food which an individual can claim depends upon sex, age and rank, while rules of distribution govern how much he may keep for himself and how much he is obliged to share. Finally, even the frequency of eating is culturally regulated; for the organisation of work and the division of labour impose certain patterns on the number and time of meals.



### III

#### DIETARY CHANGE IN CENTRAL AFRICA

In the preceding chapter food habits were shown to reflect the social structure and values of society. In the same way that there is continuity in social structure over time, so food habits tend to persist. While social relations remain the same, food habits which reflect these relations are constant; when social relations change they are accompanied by changes in food habits. The aim of this chapter is to examine the way in which food habits are changing in Central Africa. These changes will be related to others taking place in the economic, political and kinship systems.

As mentioned, the major changes which have accompanied European influence in Central Africa are the introduction of a money economy, rapid urbanisation of a number of mining centres, and labour migration which draws young men from tribal areas into towns to work for wages for a period of time. While the effects of European influence have been concentrated in the towns, rural areas have not remained immune. Life there is still based on subsistence agriculture, although in some favoured areas cash crops are now grown. The changes have not been merely economic: men have been drawn into new kinds of relationships, they have acquired new aspirations, and traditional values have been replaced.

Evidence from African & Non African areas suggests that the diet of 'primitive' peoples deteriorates with the introduction of a money economy and the socio-cultural changes which accompany it.<sup>1</sup> Margaret Mead draws attention to the fact that "In general the introduction of a money economy has been a serious factor in nutritional imbalance",<sup>2</sup> and Audrey Richards is able to generalise:

"It is an unfortunate fact that the diet of many primitive peoples has deteriorated in contact with white civilization rather than the reverse, and that in many parts of Africa the difficulty of the administrator is to ensure that people live on as good a diet as formerly, let alone a better one."<sup>3</sup>

It is, of course, very easy to idealise the state in which the African lived before the corrupting influence of Western Civilisation was felt: where he lived "in harmony with nature" and where his "instincts" let him to consume a well-balanced diet. This clearly was not the case, and the fact of mere survival is no argument that diet was either adequate or well-balanced. The fact that the majority of Africans today survive on far less than that considered adequate is proof to this point. On the other hand, evidence

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<sup>1</sup>See for example, C. Heller, "The Alaskan Eskimo and the White Man's Diet, Journal of Home Economics, XLIV (1949) and E.H. Ashton, "A Sociological Sketch of Sotho Diet," Transactions of the Royal Society of South Africa, XXVII, (1939).

<sup>2</sup>M. Mead, Cultural Patterns and Technological Change (New York, 1955), 199.

<sup>3</sup>A. Richards, Land, Labour and Diet in Northern Rhodesia (Oxford, 1939), 3.

does suggest that the African achieved some sort of adjustment to the conditions in which he lived, a balance which has been upset.

While it is difficult to compare the diet of Central African tribes today with that prior to European influence, there is indication from a number of sources that there has been a deterioration. Reports of early travellers praised the health and diet of Africans. Livingstone, for example, described Loziland as "a land of milk and honey". Gluckman, although admitting that this was still so in 1940, described it in 1947 as "almost a famine area".<sup>4</sup> One of the main causes of this rapid change was the loss of young men to the mining areas. This upset the Lozi division of labour and system of production.

Early travellers remarked on the physique and health of the Ngoni and on the excellence of their diet, which contained a high proportion of meat, milk and blood. This is supported by the Ngoni themselves, who admit that their health has declined and see clearly that this deterioration is related to changes in their diet.<sup>5</sup> In contrast to the earlier period, the Ngoni have "an impoverished diet."<sup>6</sup> While it is necessary to question the competence of early

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<sup>4</sup>M. Gluckman, Introduction to W. Watson, Tribal Cohesion in a Money Economy (Manchester, 1958), viii.

<sup>5</sup>M. Read, "Native Standards of Living and African Culture Change," Africa, XI (1938), 21.

<sup>6</sup>M. Read, The Ngoni of Nyasaland (London, 1956), 171-172.



travellers to judge nutrition and health, their accounts suggest that food was plentiful and that undernutrition did not exist on a wide scale.

More recent evidence points to a deterioration. Audrey Richards noticed that Bemba diet was far worse in 1957 than it was in 1934.<sup>7</sup> Even the Plateau Tonga, well placed for the sale of cash crops, and inhabiting some of the most fertile land in Northern Rhodesia, have been unable to improve their diet. Allen *et alia* write: "the general standard of diet, if it has not degenerated has at least not improved."<sup>8</sup>

There are two aspects of deterioration of diet in Central Africa: a reduction in quantity and an impairment of quality, the former leading to undernourishment, the latter to malnutrition. Although the hunger period is nothing new to these Central African tribes, its severity appears to have increased. In the towns, particularly, the hardship of this period is felt. Richards and Widdowson write: "On the whole, in spite of a much greater variety in diet, and opportunities for the purchase of meat and beer, the hunger months are a more anxious time for the urban native than for his fellows in the bush".<sup>9</sup>

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<sup>7</sup>A. Richards, *op.cit.*, 4.

<sup>8</sup>W. Allen, M. Gluckman, D. Peters and C. Trapnell, Land Holding and Land Usage among the Plateau Tonga of Mazabuka District (Cape Town, 1948), 171.

<sup>9</sup>A. Richards and E. Widdowson, "A Dietary Study in N.E. Rhodesia", Africa, IX (1936), 191.



The extent of malnutrition in pre-European times is far more difficult to judge than that of undernourishment. Its incidence appears to be increasing in Africa. The Deputy-Chief Health Officer of the Union stated: "Fifteen years ago district surgeons and health officers hardly ever mentioned malnutrition..., but today their reports mention an increase year by year".<sup>10</sup> In assessing the extent of malnutrition, however, account must be taken of the fact that a new awareness of dietary imbalance has accompanied advances in medical knowledge. It is possible that although malnutrition existed, in earlier years, it was not recognized.

There is little doubt, however, that the introduction of European foods is having a detrimental effect on the quality of diet in Central Africa. Tea, coffee, sugar, white bread, potatoes and polished rice are bought and form a considerable part of total food expenditure, especially in the towns. Such foods do little harm in a European diet when counterbalanced by other more nutritious foods but, as Mitchell points out, African diets are less varied than European and "where items of European diet supplant traditional items in the African diet, without an increase in the more expensive supplementary foods such as butter, fats, meat, fresh fruit and so on, there is likely to be a serious decline

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<sup>10</sup>Cape Times, (May 4, 1938). Quoted in A. Richards, Land, Labour and Diet in Northern Rhodesia (Oxford, 1939), 4n.

in the health of the African population."<sup>11</sup>

Wilson, in his study of Broken Hill, a mining town in Northern Rhodesia, where workers are drawn largely from the Bemba tribe, stresses that the use of European foodstuffs is leading to a "dietic disproportion", for the consumption of white bread is rising without a concurrent improvement in the African standard of living. This, he writes, "is beginning to threaten their health in town".<sup>12</sup>

Although the consumption of European foods is concentrated in urban areas, even in the areas remote from the industrial centres the taste for such foods is developing. Lack of money, however, limits the amount of European food that can be obtained. The Bemba, for example, far from the main urban areas and inhabiting a most infertile part of the country, have little money to spend on such luxuries, and when tea, coffee, sugar, white bread and sardines are bought they are usually regarded as 'extras' rather than part of basic diet. In contrast, the Plateau Tonga, relatively affluent through the sale of cash crops, eat more European foods. Most families spend money on such luxuries and the more prosperous regard them as a regular part of diet.<sup>13</sup>

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<sup>11</sup>J. Mitchell, Introduction to B.P. Thomson, Two Studies in African Nutrition (Manchester, 1954), x.

<sup>12</sup>G. Wilson, The Economics of Detribalisation in Northern Rhodesia (Livingstone, 1942), 29.

<sup>13</sup>E. Colson, "Plateau Tonga Diet", Human Problems in British Central Africa, XXIV (1958), 51.

This has serious implications for nutritional standards. If increased purchasing power is used on luxury goods, rather than on nutritionally-valuable foodstuffs, rising African incomes will not lead to an improvement of diet and may even lead to a deterioration.

The other most noticable change in diet has been the development of far wider disparities in the consumption of food between families, within a community. It was pointed out in Chapter Two that one characteristic of the traditional diet of these peoples was the overall quality in type and amount of food consumed. Such equality appears to be giving way under the new conditions of economic opportunity. Richards and Widdowson, in their examination of the diet of a number of Bemba families, found that wide disparities existed. While one family had an average of 115 grams of protein per man per day, and 4,859 calories, at the other end of the scale in the same village another family had an average of only 18 grams of protein per man per day, and 791 calories:<sup>14</sup> a situation which would not have existed under the traditional system of distribution.

The two-fold origin of diet in Central Africa is characteristic of the way of life of these peoples in general. The society in which they live is no longer the small-scale tribal society of pre-European times, neither does it conform to the

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<sup>14</sup>A. Richards and E. Widdowson, op.cit., Table V, 191.



pattern of Western industrial society. Instead it occupies a position between two ideal types - between a society based on subsistence agriculture, where social relations are almost entirely confined to those linked through ties of kinship and locality, in which the individual occupies a position determined largely by his birth, and a society based on an industrial economy, where relationships are frequently impersonal and where the individual is able to a certain extent to alter his own social position.

While each way of life, the tribal and the industrial, is in some sort of balance in the sense that institutions are mutually adapted and social roles on the whole are not conflicting, there is a noticable lack of such balance in Central Africa. As Wilson points out, the society is characterized by "disequilibrium". The cause of this lies not in change itself but in uneven change.<sup>15</sup> Throughout Central Africa some adaptations have been made to the model of Western industrial society, while in other fields traditional behaviour and attitudes persist: aspirations have changed with the introduction of a money economy, while agricultural production has remained static or declined; in the towns the nuclear family has freed itself of extended kinship ties, while low wages have made it impossible for it to be self-supporting, and medical facilities have led to a population increase unaccompanied by changes

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<sup>15</sup>G. Wilson, The Economics of Detribalisation in Northern Rhodesia (Livingstone, 1942), 16.

in methods of production. Such uneven change is reflected in dietary imbalance.

The economy of Central African tribes is neither a modern nor a primitive economic system. Instead it is based on subsistence agriculture with elements of a money economy. Economic change has not been consistent, either. In rural areas little change has taken place in age-old methods of agriculture, while rapid developments have been made in mining and industry. Subsistence agriculture exists side by side with modern industrial production. This has meant that the cities have been able to attract a plentiful supply of cheap labour, which at the same time, has dealt a serious blow to agricultural production through the withdrawal of male labour. This uneven change has been reflected in the population composition of the towns. Wilson estimates that of the 15,000 Africans in Broken Hill, 7,500 are men, 3,500 women and 4,000 children.<sup>16</sup> In rural areas there is a consequent disproportion of old people, women and children.

Despite the lack of change in agricultural methods or an increase in the level of production in rural areas,

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<sup>16</sup>G. Wilson, op.cit., 36.

economic aspirations have risen. The desire for European goods has grown without an accompanying rise in purchasing power. Economies thus take place on other items, especially food. As Wilson writes:

"The new ambitions of the country-dwellers have reduced the proportional significance of food to them; they still want food, but wanting clothes, saucepans and bicycles too, they would rather go hungry than do without them; and so it happens that the wealth which the young men send or give them is hardly ever turned into food.<sup>17</sup>

Crops are sold for cash wherever possible, whether or not they are needed for home consumption. This frequently leads to a serious reduction in the amount of grain which is kept, and a consequent deterioration of diet. The Plateau Tonga sell more maize than they should and even if the harvest has been large enough to satisfy their food needs, many families find themselves short of food through over-selling.<sup>18</sup> The Bemba have little opportunity to sell crops as they are far from markets and in an infertile area. Nevertheless, Audrey Richards remarks, "It can be said at once that where millet can be sold for money, either to Europeans or to urban natives, the natives always succumb to the temptation."<sup>19</sup> Ngoni women too, especially those whose husbands are away, cut food consumption to a minimum in order to make beer to sell, and with the proceeds buy European goods.<sup>20</sup>

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<sup>17</sup> G. Wilson, op.cit., 52.

<sup>18</sup> E. Colson, "Plateau Tonga Diet," Human Problems in British Central Africa, XXIV (1958), 62.

<sup>19</sup> A. Richards, Land, Labour and Diet in Northern Rhodesia (Oxford, 1939), 217

<sup>20</sup> M. Read, "Native Standards of living and African Culture Change", Africa, XI (1938), 43.



Money received for either labour or the sale of crops is rarely spent on food other than luxury items. B.P.Thomson in her investigation of Iala diet found that although food was sold "most of the money obtained by the sale of goods was spent on non-food products".<sup>21</sup> Audrey Richards too takes note of the fact that most natives do not consider that money should be spent on food and regard such expenditure as waste. Money is hard to earn and should, therefore, be spent on items which cannot be obtained without it. These include clothes, bicycles and luxury foods, which are bought at the expense of more basic foodstuffs.<sup>22</sup>

There is little doubt that population is increasing steadily in Central Africa, although data are unreliable as to exactly how rapidly. The cause of this increase lies in the fact that medical facilities have brought about a reduction in the death rate while the birth rate has remained constant.<sup>23</sup> Population pressure is already showing itself in a shortage of land. As already mentioned,<sup>24</sup> shifting cultivation operates successfully only in conditions of ample land and sparse population, as Yudelman writes: "...under the system of shifting cultivation a relatively sparse population was in ecological balance with its environment".<sup>25</sup>

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<sup>21</sup>B.P.Thomson, Two Studies in African Nutrition (Manchester, 1954), 54.

<sup>22</sup>A.Richards and E.Widdowson, "A Dietary Survey in North East Rhodesia", Africa, IX (1936), 190.

<sup>23</sup> See pp. 8-9.

<sup>24</sup>P.40.

<sup>25</sup>M. Yudelman, Africans on the Land (Cambridge, 1964), 13.

This ecological balance has been upset: insufficient time has elapsed between periods of cultivation, resulting in soil deterioration and decreasing crop yields even in the most fertile regions.<sup>26</sup> Land shortage is, however, a relative term as Allen *et alia* point out, land is short only in relation to traditional methods of agriculture.<sup>27</sup> There is still ample land in Central Africa for methods other than shifting cultivation. Yudelman, who made a study of land use in Africa writes: "Lack of land is not necessarily a limiting factor in expanding production. Rather, in many areas, lack of knowledge, poor techniques of production, limited markets and tribal traditions are among the more important factors restricting output."<sup>28</sup> An imbalance has developed because changes in agricultural knowledge and methods have not accompanied changes in population rates.

Not only has diet been affected by the introduction of a money economy, the availability of European foodstuffs and soil deterioration, but the accompanying changes in social relations have been reflected in food habits, attitudes and values. Foremost among these changes is the gradual emergence of the nuclear family with the consequent slackening of extended kinship ties. New economic opportunities and the need for mobility have led to what Richards and Widdowson describe as "the breakdown of the kinship unit".<sup>29</sup> Young men now have an alternative to remaining

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<sup>26</sup>See for example W. Allen *et alia*, Land Holding and Land Usage above the Plateau Tonga of Mazabuka District (Cape Town, 1948), 130.

<sup>27</sup>Ibid., 2.

<sup>28</sup>M. Yudelman, op.cit., 8.

<sup>29</sup>A. Richards and E. Widdowson, op.cit., 196.

on the land and cooperating with kinsmen as their ancestors did: the town with the excitement and economic opportunities it offers exerts a strong pull. No longer are Bemba men willing to work for their fathers-in-law. The payment of a sum of money or of goods is now replacing traditional bride service.<sup>30</sup>

Under these conditions there has been a breakdown in the unit of production. The Bemba unit of a man and his sons-in-law has virtually collapsed with serious effects on both agricultural production and the food supply. The substitution of goods or money in no way compensates for the withdrawal of labour. In contrast the composition of the Mambwe production group, as described in the previous chapter, has enabled it to survive the new conditions of labour migration and the fall in food production which has occurred among the Bemba has been avoided.<sup>31</sup>

Equally important changes have taken place in attitudes to the distribution of food. In Chapter Two note was taken of the uniformity of food consumption within a village, brought down through rules of distribution which obliged kinsmen to share whatever food they had. No longer, however, is this obligation felt to the same extent, particularly when money is used to purchase food it is felt that traditional rules of distribution do not apply.

These changes in distribution are clearly reflected in diet. Far greater variations now exist than in the traditional system.

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<sup>30</sup> A. Richards, *op.cit.*, 133.

<sup>31</sup> See pp. 44-45.



Margaret Read notes that while Ngoni food consumption was once adequate and uniform, considerable differences now exist between families.<sup>32</sup> Richards and Widdowson too point to the wide variations in consumption they found and note that "Individual cases of extreme shortage exist side-by-side with comparatively luxurious diets and the quite widespread use of European commodities such as sugar and tea."<sup>33</sup>

In a fully developed industrial society where wage levels ensure a reasonable standard of living and where thrift and budgeting are valued, the nuclear family is able to stand alone economically without great hardship. In the same way, traditional rules of distribution in Central Africa were congruent with subsistence agriculture. What is now happening in Central Africa is that the nuclear family is losing the support of kin without either the values or the financial means to stand alone. In the urban areas, particularly, considerable hardship arises from the fact that at difficult times the independent family does not receive the same support from kin as it would receive in the traditional system. Married couples tend still to eat in groups of two or three households, <sup>but</sup> eating groups are unstable and commitments to help not as strong.<sup>34</sup>

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<sup>32</sup>M. Read, The Ngoni of Nyasaland (London, 1956), 21-23.

<sup>33</sup>A. Richards and E. Widdowson, "A Dietary study in North East Rhodesia", Africa, IX (1936), 191.

<sup>34</sup>G. Wilson, The Economics Detribalisation in Northern Rhodesia (Livingstone, 1942), 76.

The value, moreover, of thrift and budgeting is still somewhat alien to the African, used to relying on others to make up any deficiencies in his own food supply. B.P. Thomson, who examined the food consumption of the urbanised Africans in Lusaka, found that "Although the figures for food consumption of individual families are fairly adequate when taken over the whole month, they are low during the last week of the month, and in the case of households surveyed in the Location show a definite food shortage".<sup>35</sup>

Changes too in the relationship between chief and subjects have not been without effects on diet. A noticeable decline has taken place in the authority and power of tribal rulers and the respect accorded them. Their power has been limited by British rule, their relative wealth reduced, and their ritual functions undermined. These changes have had repercussions on the role they play in the production and distribution of food.

New economic opportunities, the possibility of avoiding tribal obligation and changing attitudes have contributed to the declining role of tribal rulers. The lure of the towns has enabled young men to free themselves from onerous tribal obligations, the new way of life learned there leads them to look at traditional authority with some scorn and their relative wealth compares favourably with that of their rulers.

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<sup>35</sup>B.P. Thomson, Two Studies in African Nutrition (Manchester, 1954), 25.

Under such conditions the traditional hold which tribal rulers had over the economic life of the tribe has collapsed. The Ngoni rulers who were once in a position to ensure high standards of cultivation are now helpless in the face of lowering standards. Ngoni cultivation which was once efficient and well-organised is now reverting to the lower standards of the surrounding tribes.<sup>36</sup> The hold of Bemba rulers over production has also been lost, in particular their role in the ritual of production has been undermined. Whereas this ritual once provided initiative and organisation, participation in it is now half-hearted with a consequent decline in efficiency. Audrey Richards writes: "It is this faith which has been weakened nowadays with pronounced effects on the whole morale of the tribe as far as agriculture was concerned."<sup>37</sup>

While the wealth of their subjects has risen, the resources of rulers have declined both relatively and absolutely. The wealth of tribal rulers rested upon tribute in the form of goods and labour which their subjects are now reluctant to give. Not only has this been reflected in a loss of authority, but it has meant that rulers are becoming increasingly unable to carry out their redistributive role. No longer do they have large

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<sup>36</sup> M. Read, Nature Standards of Living and African Culture Change, Africa, XI (1938), 37-41.

<sup>37</sup> A. Richards, Land, Labour and Diet in Northern Rhodesia (Oxford, 1939), 380.



food reserves on which to draw to reward services and to feed those in need. Ngoni chiefs are now hard-pressed to carry out these responsibilities without the facilities for production which they had in the past.<sup>38</sup> Bemba rulers are no longer able to fulfil their duties. In fact, they have insufficient food even to provide their councillors and are "beginning perforce to refuse food to the hungry and even to their poor relations."<sup>39</sup> The inability of tribal rulers to carry out their former redistributive role, which in Chapter Two was shown to have a levelling effect on the food consumption of their subjects, has thus led to further variations in consumption of food between households.

So far, changes in Central Africa have been examined at the societal level. Changes have been shown in the economic, political and kinship systems and their effects on diet investigated. At the individual level such changes can be viewed as shifts in social status - changes in the relationships which an individual has with others, in his social position as seen by others and, equally important, in his own definition of his position and role. The new economic opportunities in Central Africa have given to the individual the chance to alter his own social position: they have offered him an alternative way of life and have allowed him the exercise of choice.

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<sup>38</sup> M. Read, "Native Standards of Living and African Culture Change", Africa, XI (1938), 23.

<sup>39</sup> A. Richards, op.cit., 263.

In labour migration the individual has an alternative to carrying out his traditional role; he has an opportunity of getting out of onerous tribal obligations and a chance of earning, through his own labour, a supply of goods and money and the social prestige which goes with their ownership.

The overwhelming concern with social status which characterises Central African society is typical of any society in flux. The individual who once occupied a well-defined position and whose relations with others were largely set by this position is now unsure both of his own social position and the behaviour expected of him. A large proportion of wages earned is spent on conspicuous consumption, on goods which increase the status of the owner in the eyes of his fellows. Clothes in particular are used for this purpose. Audrey Richards notes that "the strength of the Bemba craving for clothes" is almost impossible to believe for those who have not seen "the swagger of the booted and trousered young man in front of the women of his village".<sup>40</sup> Similarly Wilson draws attention to the tremendous interest in clothes of the Africans of Broken Hill, remarking that "clothes symbolize their claim to civilized status".<sup>41</sup>

Food habits reflect change in social status. As in our own society the individual eats in accordance with the dietary pattern of the group to which he belongs or to which he aspires to belong,

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<sup>40</sup>A.Richards, op.cit., 216.

<sup>41</sup>G.Wilson, The Economics of Detribalisation in Northern Rhodesia (Livingstone, 1942), 18.

so in Central Africa the individual's food habits reflect his social status. The consumption of European foods is both a sign to others of his sophistication and a reflection of his own conception of his social status. White bread in particular, as Wilson remarks, symbolises the "civilised man" and is thus of such prestige that "the taste for white bread and sweet tea is now a serious rival to the taste for beer and young men often entertain their friends with bread parties rather than beer parties".<sup>42</sup>

Changes which have taken place in food habits, then, have not been changes in an isolated system of values and behaviour but have occurred as part of a general social change, a change in relationships, in aspirations and in values. In themselves food habits tend to be enduring and may persist in relatively unchanged form for generations, transmitted in the socialisation process. The change which takes place in food habits is hence a response to external pressures, to a change in the conditions which give rise to them. In Central Africa the change in food habits which has occurred can be related to three main areas of change: to that in the availability of foodstuffs, to that in the social relations through which food is produced, distributed and consumed, and to the changes which have taken place in values and attitudes towards food.

Introduction of European foodstuffs has brought a whole

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<sup>42</sup>Ibid., 29.



new range of foods to the African consumer. The availability of such foods, however, is not sufficient in itself to produce a change in food habits. Purchase and use of novel foods depends upon two conditions; first the consumer must want them more than he does the traditional foods; second, he must be able to pay for them. Changes in the economic system: the introduction of a money economy, wage labour and the sale of cash crops, have provided the financial resources with which to buy at least some of the offered goods, albeit the cheapest and least nutritious. Motivation for the adoption of such foods into diet is largely related to the prestige attached to their use and the ease of preparation they offer to the housewife. A loaf of white bread, as mentioned earlier, carries with it a great deal of prestige and its inclusion in diet relieves the housewife of much of the work which in traditional diet went into the preparation of a meal.

Changes which have taken place in social structure have been shown to be reflected in food habits. The changing composition of social groups and the changing nature of social relationships have affected the production, distribution and consumption of food. In production, traditional units have disintegrated with adverse effects on both incentives to production and on food yields. Rules of distribution have changed, resulting in far wider disparities in consumption between families than existed in the traditional system and the food consumed by the individual has changed in accordance with his social status.

The values, the ideology of food, have changed too. While food was once viewed as wealth, used in fulfilling social obligations, in bridewealth and in settling disputes, money is now taking over these functions with a consequent decline in the value attached to food. As mentioned earlier in this chapter, the relative value of food has declined in competition with bicycles, saucepans and clothes. More important, however, has been the change which has occurred in the classification of foods, the way in which foods are arranged into categories according to prestige, to suitability for particular people or for particular occasions. It is according to this classification that food choice is made and hence changes in this are fundamental. European goods have found a place at the top of the hierarchy of prestige and occasions of importance are now celebrated with cake, biscuits, tinned fruit and soft drinks instead of the traditional killing of a beast. Entertaining is frequently done with white bread and tea rather than with beer, for such foods are now considered by many to be the correct, the appropriate foods for these occasions. Finally, change in the classification of food is shown in what the individual considers the appropriate food for himself, for his family and for other members of society - a change in the cultural definition of food.

## CONCLUSION

Today, when more than half of the world's population is suffering from malnutrition and undernourishment,<sup>1</sup> concern is growing over the need to increase food supplies, either through improving methods of production or through a better utilization of the unexploited food resources of the world. The F.A.O., voicing this world concern, stresses, for example, that "the vicious circle of hunger, poverty and stagnation can be broken by raising production and productivity".<sup>2</sup> This study has, however, drawn attention to the fact that the causes of malnutrition and undernourishment lie not only in the gap between food requirements and food supplies, a situation which can be remedied through increasing production, but also in food habits, beliefs and attitudes. Although increased food production is necessary for the improvement of dietary standards, nutritional deficiencies, which have their roots in the organisation and values of a group will not be eliminated through this alone.

The study of food habits, beliefs and attitudes is central to any examination of diet. If we want to know why a particular individual or group suffers from nutritional deficiencies, it is

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<sup>1</sup>F.A.O., The State of Food and Agriculture, 1962 (Rome, 1962), 129.

<sup>2</sup>F.A.O., Development Through Food (Rome, 1962), 11.



necessary to know, not only what food resources are available, but also how these resources are exploited, the rules which govern their distribution, the way in which they are prepared and consumed, and the values and attitudes which lie behind these practices.

The examination of the food habits of a number of Central African tribes showed how the individual's choice of foods is conditioned by the society to which he belongs, and how the values, on which this choice is based, do not form an isolated system but are integrated with the central values and basic structure of society. Viewed in this way, the failure of a group to give priority to nutritional considerations in their choice of diet, or their failure to adopt more efficient techniques of production is not, as has been commonly supposed, based on ignorance and superstition, but has its roots in their values and basic organisation. Food habits of peripheral social importance can be changed easily, but those which are central to the values of a people, can be altered only through a change in the social structure and values in which they are rooted.

In Chapter Three changes in food habits in Central Africa were related to concomitant changes in social structure and values. It was suggested that these changes were brought about through the exercise of individual choice. New foods were available offering social prestige and ease of preparation, while, at the same time, social changes were taking place, accompanied by changing values and a loosening of traditional sanctions.

In Central Africa, the changes in food habits which have accompanied the introduction of a money economy, have led to a deterioration of diet. The relative value of food has declined in competition with other goods, while some of the least nutritious European foods have been incorporated into diet.

Some doubts have, therefore, been shed on the assumption that, as poverty is the main cause of malnutrition, a rise in nutritional standards will accompany a rise in incomes. The Central African material presented here, in fact, suggests a less optimistic conclusion, at least in the short run. Central Africa is, however, going through a very radical transition; this kind of dietary imbalance may well be characteristic of one stage of the transition from a subsistence to an industrial economy.

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