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# A PEASANT ECONOMY IN NORTH-WEST PORTUGAL

R. D. HAYES

**D**URING THE Long Vacation of 1954 a party of six Cambridge University students set out to make a study of the rural peasant economy in the Minho Province of Portugal; the party consisted of R. D. Hayes (St. John's College), P. Haggett, J. B.

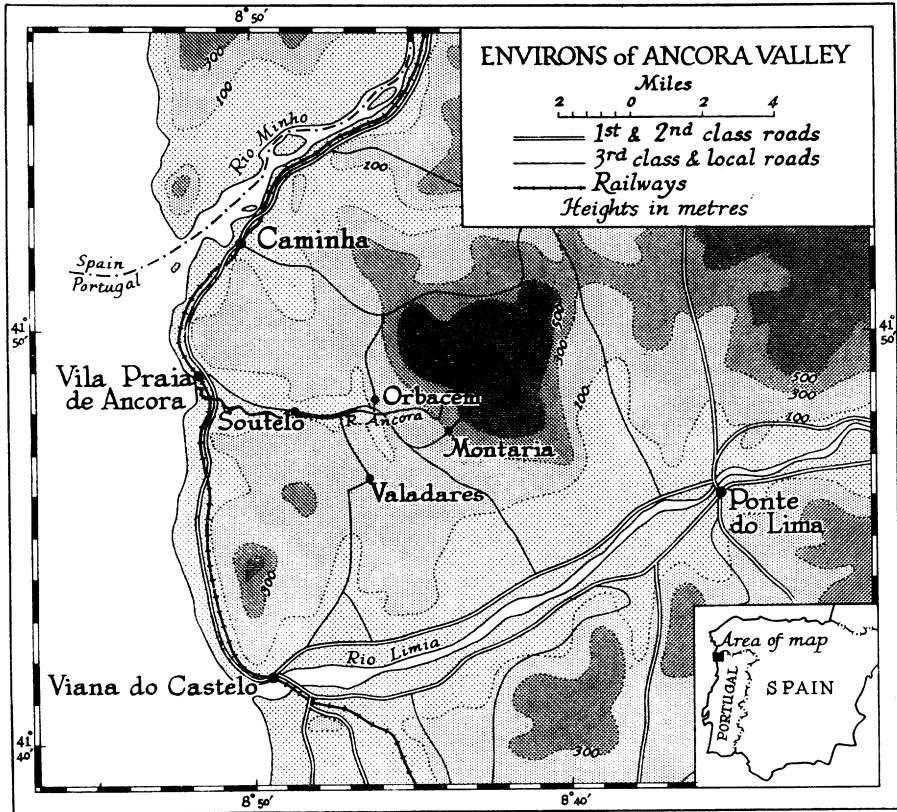


Figure 1

Neilson, N. J. Spearing (St. Catharine's College), A. J. Spivey (Cheshunt College,) P. A. Colinvaux (Jesus College). The results of the expedition are embodied in this paper, which aims at describing the economy of a small part of the Minho as it exists today, indicating the forces responsible for past changes and those likely to cause changes in the near future. The area chosen for study was the Ancora Valley (Fig. 1), and the problems which emerge are viewed mainly from the local standpoint. Other aspects of the party's work have been touched upon only in as much as they place these local problems in their national context. They concern the significance of the Minho in modern Portugal and, since the Minho is the traditional

source of emigrants, demand careful examination of government emigration policy particularly in relation to the development of the Overseas Provinces.

#### THE REGIONAL SETTING

The Minho Province is in the extreme north-west of Portugal and its modern capital is Braga. Within the Province is the town of Guimarães which was the capital of Portugal in the twelfth century and is traditionally regarded as the cradle of the nation. The historical background of the Minho as the old core area of the Portuguese nation is reflected in the present dense population of the rural peasantry<sup>1</sup> but both the economic and political centres of gravity of Portugal have now moved south leaving the Minho rather cut off and backward. With a continuing very high birthrate there is an increasing pressure of population which the longstanding tradition of emigration only partially relieves.<sup>2</sup> The distinctive feature of migration among the Minho is the high proportion of unaccompanied males who migrate, intending to return to their homes and families after a period of work in Lisbon, Brazil or elsewhere overseas. The birth-rate remains high in spite of this.

In the Minho the granitic core rocks of Iberia are exposed and throughout northern and central Portugal these contain widespread deposits of non-ferrous metal ores, particularly tin and wolfram. Since there is only a small home market, economic production is marginal and production is often only profitable when war upsets the normal supplies to Europe. The main rivers which flow roughly east-west are entrenched in narrow valleys. The dissected relief hampers regional and local communications, particularly as the rivers themselves are of little value for transport. Hydro-electric power potential is some compensation. The coast is abrupt; although there is a narrow coastal plain the hills rise steeply behind, so that at the head of the Âncora Valley the principal height reaches over 2500 feet at a distance of only 10 miles from the coast (Fig. 1).

With a latitude almost exactly comparable with that of Rome the climate of the Âncora valley (lat. 41° 49' N.; long. 8° 52' W.) has a basically Mediterranean rhythm although in detail the Atlantic coast location has a strong modifying influence.<sup>3</sup> The critical feature of the climate from the economic point of view is the low rainfall during June, July and August when the maize crop is maturing. It is rare for as much as a tenth of the annual rainfall to fall during these three months. Although the area is well watered compared with the rest of Portugal, it is dependent upon irrigation for its summer agriculture. Both the need for irrigation of crops and the limited amount of flat land available have led to terrace cultivation to provide for the rising population, but the possibilities for further expansion of terracing are now very small.

#### SURVEY METHODS

In making our detailed field study of the basin of the Rio Âncora four main methods of investigation were used.

1. *Cartography*.—(a) Surveys were made on a scale of 1/500 of 5 areas of farmland of about 6 acres each, selected to illustrate important points in the valley

<sup>1</sup> Birot, P. 'Le Portugal,' Paris, 1950, p. 71 gives an average density of 400 persons per square kilometre of cultivated land in the Minho. Our own computation for the area of our study was 460 persons.

<sup>2</sup> The excess of births over deaths for the Minho in 1953 was 18 per thousand (based upon crude birthrate). Comparable figures are France 8, Belgium 4.5 and the whole of Portugal 12 per thousand.

<sup>3</sup> Temperature: Sea level monthly average 46° F. January, 64° F. July. Rainfall: Average annual on coast 50 inches, rising to 100 inches on hill slopes a few miles inland.

economy. (b) For a more general picture a land use map was compiled for the whole valley based on the Portuguese 1/25,000 map.

2. *Questionnaire*.—An eighty-point questionnaire was devised and was completed by a landholder for each of the five survey areas. Points covered were age and nature of buildings, regime and marketing of crops, construction of terraces and soil improvement, availability and use of water, farm implements, emigration and the structure of the labour force, extent of animal husbandry, methods of transport open to the peasant, origin and terms of tenure of the holding, possession of woodland, and the place of money in the farm economy. A check on this narrow sample was provided by a ten-point questionnaire put to all householders in the village of Orbacem where questioning was limited to source of income, frequency of migration, types of land tenure, occupation and numbers of stock.

3. *Interviews*.—We had interviews and informal contacts with people of the valley, the peasants, craftsmen, tradesmen, priests and local officials. Much of the background material of the study was built up in friendly conversation with the local people.

4. *General*.—Critical correlation of detailed data gained through field work with generalizations in current literature. Outside the valley information was gained from conversations with Portuguese geographers, study of theses on topics similar to our own, examination of statistical records, and interviews with district and national administrators culminating in an interview with Dr. Salazar, the Prime Minister.

THE GENERAL PICTURE OF THE VALLEY

The fundamental feature of the economy of the *Âncora* area is the near subsistence peasant agriculture and its associated crafts. Apart from some processing

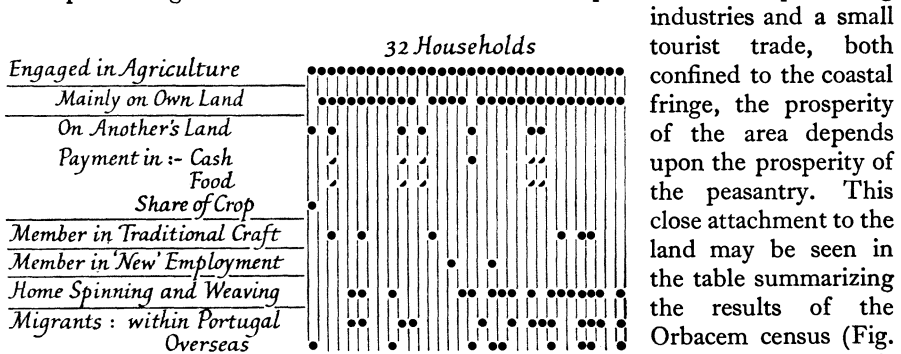
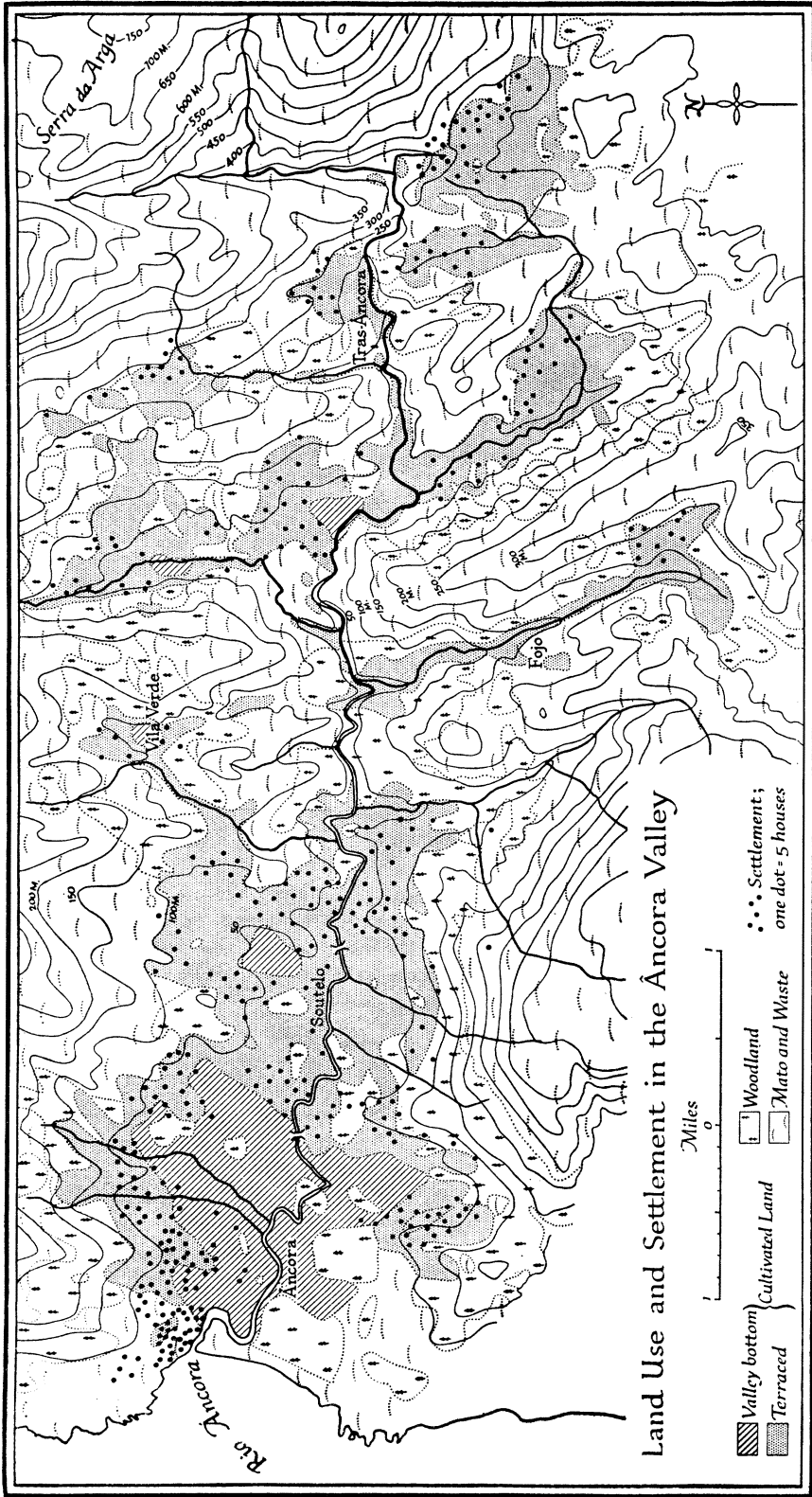


Figure 2

industries and a small tourist trade, both confined to the coastal fringe, the prosperity of the area depends upon the prosperity of the peasantry. This close attachment to the land may be seen in the table summarizing the results of the Orbacem census (Fig. 2). The data in this table are derived from the 10-point questionnaire put to the village on 6 September 1954.

Orbacem is one of the less cut-off villages in the valley. The table shows the close link which all households have with the land and the comparative rarity of cash payment for agricultural labour. It contrasts occupation in the traditional rural crafts—carpenter, smith, mason, baker; with work in industry of new development—in this instance, a furniture factory and the forestry service. Home spinning and weaving of wool and flax is shown to be active. The incidence of migration is partially indicated, but a more detailed breakdown is given in the table on page 68.

The coastal section of the valley is broad but narrows very rapidly at a point about 3 miles inland (Fig. 3). From this point up river the character of the valley



*Fig. 3. The locations of the free survey areas are indicated by the names used to describe them in the text*

changes and both the main river and its tributaries flow through deep, narrow valleys which widen occasionally, affording sites for settlement. The pattern of settlement shows this distinction between the coastal and upper sections quite clearly. In the upper valley, settlements are small but moderately nucleated, and are grouped together in two narrow bands running *with* the grain of the country. In the lower valley, settlement is loosely scattered along the lower slopes, being particularly concentrated on the spurs which jut out into the valley. There is some settlement on the valley floor associated either with bridging points or with infertile outcrops of bedrock. The primary consideration in siting buildings is the desire to avoid alienating any agricultural land and the locations to which this policy leads have the further advantage that granite may be quarried virtually on the site.

Although there is the contrast of character between the upper and lower valleys a common pattern of agriculture can be seen throughout. A convenient distinction may be made between:

(a) *The crop lands*.—(i) The level alluvial bottom lands where terracing is only necessary for the control of irrigation, (ii) the valley sides and the floors of steep tributary valleys where terraces from 4 to 8 feet high have to be constructed not only for irrigation but to obtain ground sufficiently level to cultivate.

(b) *The woodlands*.—The mid slopes of the valley sides and infertile outcrops of the valley floor which are planted with conifers.

(c) *Hill top mato*.—The hill top area where heather and bracken, locally termed *mato*, is cut as litter for the animals and is used to some extent for rough grazing.

#### LAND OWNERSHIP AND THE SIGNIFICANCE OF THE EMIGRANT

The land in the valley is in the main privately owned in small units by the peasants, 6 acres of arable and grassland being a good-sized family holding. The laws of inheritance cause holdings to be divided equally among all the children so that there has been a steady decline in the size of holdings. Although marriage helps to maintain the size of holding it cannot rectify the fragmentation. Within the area surveyed for Figure 4, only two owners—(A and B)—have more than one plot of land. "A" is a migrant who returned to the valley after working for 20 years in America.

The family is the basic unit of labour but there is some hire of labour, mainly of women. Holdings which are too small to support a family are supplemented by rented land worked on a share crop basis. Actual sale and purchase of land seems to be mainly connected with emigration. A man wishing to emigrate may sell some of his land to obtain the necessary capital, leaving his wife to work the remaining land in association with a brother or other relation. The purchaser is often a returned emigrant, for few others will have sufficient capital. If he has large savings he may purchase land beyond the capacity of his family and employ hired labour on his fields or rent out land to others. The emigrant also has a place in the everyday economy as his remittances maintain a steady flow of money to help support his family in the valley. Capital investment in new buildings, terraces, and similar large items depend largely on the emigrants' savings.

#### THE AGRICULTURAL BASE—WATER THE LIMITING FACTOR

The valley bottom and terrace lands are the nucleus of a holding providing most of the family's basic food supply. In the *Âncora* valley there is little possibility for

expansion of this acreage but it was stressed by all the farmers questioned that if they had more water they could either extend their maize acreage or get a better yield from their present land. The use of water for irrigation is restricted from June 24 to September 29.<sup>1</sup> The irrigation is based upon spring supply controlled through granite tanks, or on water diverted from the rivers by damming and channeling. In the coastal part of the valley much of the alluvial land is irrigated by bucket chain from wells 10 to 20 feet deep, elsewhere the granitic structure gives an unpredictable water table and well sinking is not practicable. A few motor pumps have now been installed by the wealthier peasants to lift water direct from the river on to adjacent terraces but their use is controlled both by cost and by strict

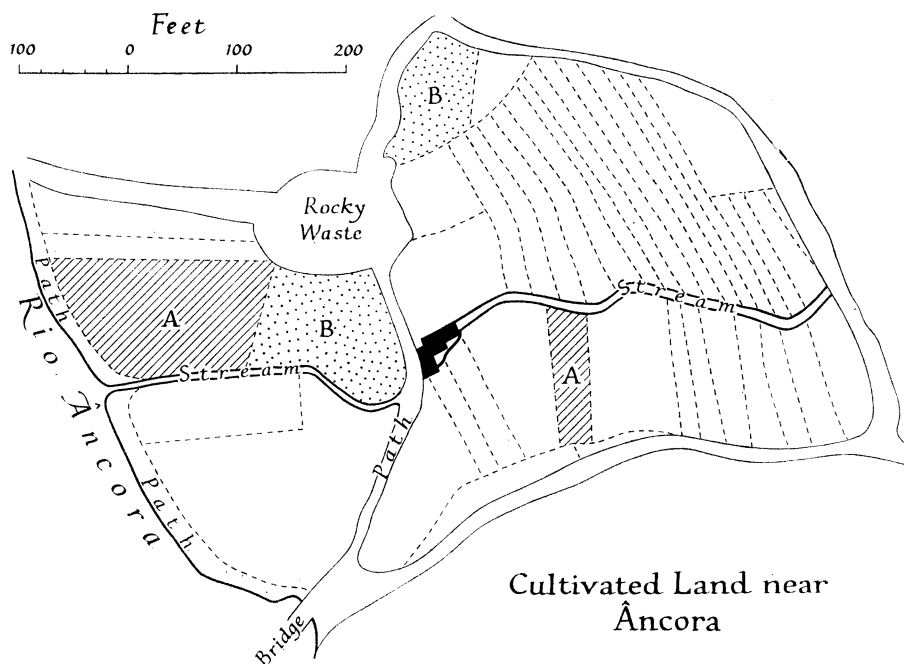


Figure 4

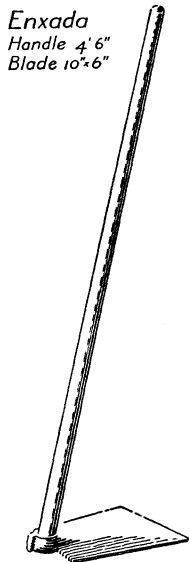
licensing. The available water is so fully used that the installation of new irrigation systems is very difficult.

The soils are medium to light loams becoming lighter towards the bottom of the slopes and on the riverside flats. They have a moderate crumb structure which is maintained by frequent hand cultivation and water passage is very free, a point of great importance on irrigated lands. Seaweed and litter from the farm yards are the only sources of organic material; as one moves inland the use of seaweed declines rapidly.<sup>2</sup>

<sup>1</sup> On the property surveyed at Soutelo the farmer had a right to water from a stream on one day in eighteen, he supplemented this supply by direct pumping from the main river using a motor pump.

<sup>2</sup> Seaweed is gathered on the coast by women. An ox-cart load of dried seaweed costs about 120 escudos (30s) and takes one person about a week to collect. November is the main month for collection.

Although little deliberate action is taken to restore them, most mineral nutrients remain at a moderately high level under crops, possibly because the irrigation water has a high mineral content. However, the calcium level is undesirably low for good agriculture and although there is no sign of deficiency disease, only crops tolerant of a low calcium level are grown.



*Enxada*  
Handle 4'6"  
Blade 10"x6"

Constant attention by hand while the crop is growing is the dominant feature of all cultivation. The size of plots, the distance between them and the steep terracing all militate against the use of large implements in cultivation. A large number of peasants have a share in the steeply terraced land at Tras-Âncora, shown in Figure 6. The terraces are of particularly fine construction and are uncommonly broad for the steepness of the slope. Elsewhere in the valley the peasants have generally been content to create a large number of rather narrow terraces to overcome the slope. On the broader terraces and on the valley floor, ploughs made locally and drawn by cattle are used for the preparation of land. On some small terraces only hand cultivation is possible and the *enxada* is universally employed. Peasant transport centres upon the heavy wooden bullock cart of which there were 700 registered in the valley in 1950. This represents an approximate average of one per twelve persons in the valley. The cart is of extremely robust construction with steel-tyred, nearly solid wheels. Even when the cart is heavily laden a good pair of cows or bullocks can haul it steadily over steep hill paths.

#### CROPS AND ANIMALS

Maize is the predominant summer irrigated crop and provides a high proportion of the food supply: marrows, cabbages and beans are often intercropped with the maize. Small patches of onions, potatoes and coarse cabbage are maintained during the summer, usually on plots near to the house, but the predominant pattern is of maize with some irrigated grass. Vines are grown over courtyards and pathways or supported from the front of terraces with grass growing beneath the canopy. They are rarely allowed to compete for land which could be used for other crops (Figs. 5 and 7). The wine is "green," or unmaturing, but it has a ready sale both in Portugal and Brazil. It is a source of cash income to the peasant.

There is a wider range of winter crops with greater variation from farmer to farmer. Rye, potatoes, and oats are the most important crops grown by quantity, but vegetables are also grown and are vital to the peasants' diet. Some terraces are sown to grass and yield hay for cattle food. Among minor crops which ripen at various times of the year are the olive, which is grown universally, and soft and citrus fruits. Little use is made of fruit except for home consumption and some cider-making, although a small quantity is sold in the local shops.

The cattle of the valley are mainly cows which are able to combine the functions of draught, milk and stock animals. Lack of summer feed is critical and irrigated grass hand-cut and stall-fed, has to be supplemented by the tops cut from maize just before it ripens and coarse roadside grazing. Although most of these animals are of a multi-purpose breed, under Government encouragement there has been some trend towards the Turino (basically Fresian) for milk production. On account



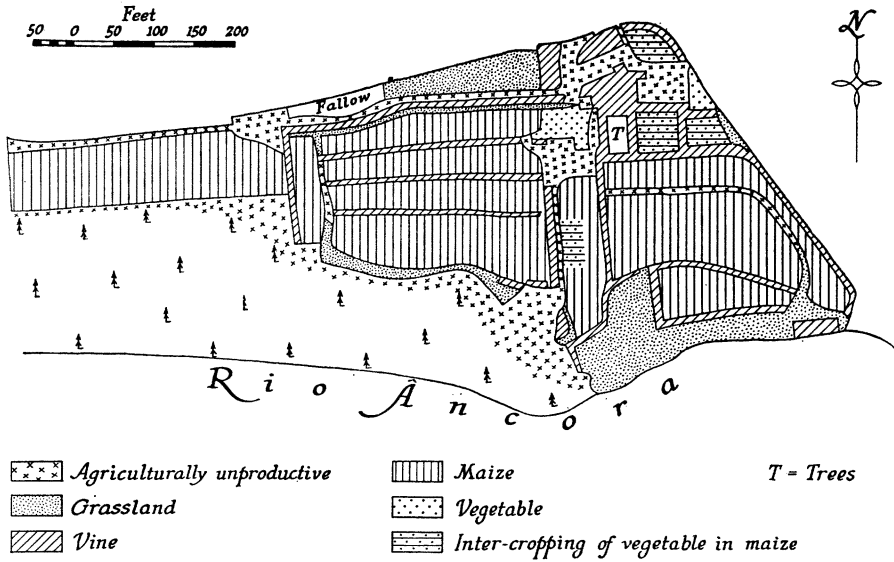


Fig. 5. Land use at Soutelo

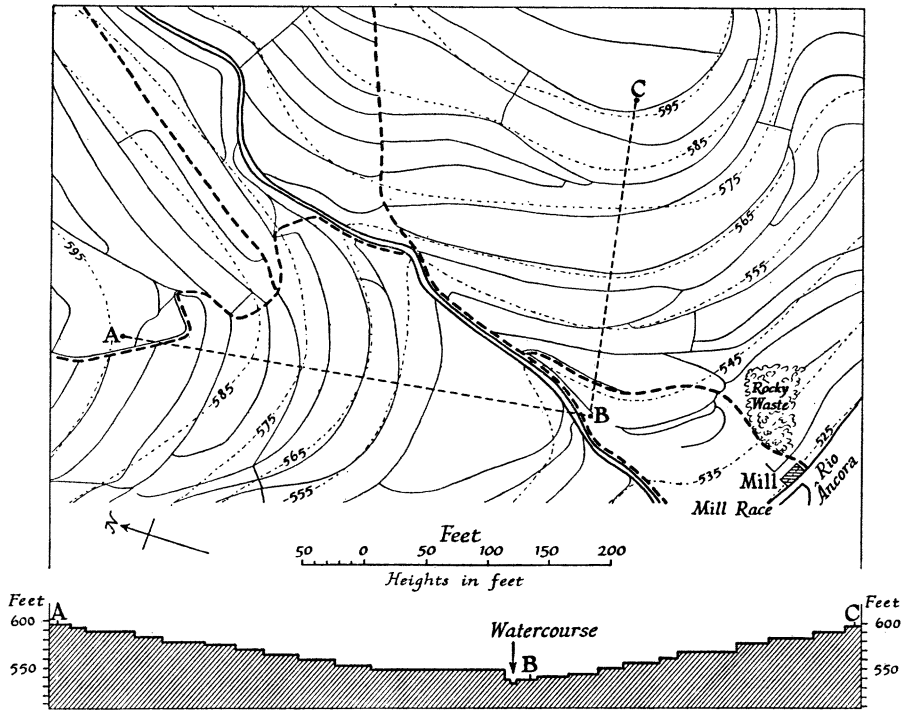


Fig. 6. Steeply terraced land on the property surveyed at Tras-Âncora

of the poor feed and strenuous life of these beasts a high milk yield cannot be expected, and the valley butter and cheese factory (established 1894 and a flourishing business) has to rely upon a great number of small producers. The killing of beef animals at a very young age is also linked with the shortage of feed. In the upper valley sheep and goats are run on the Serra da Arga and the adjacent heights. Lower down the valley sheep are only kept in ones and twos. Pigs are generally kept within the yard and are not of very good quality, but the butter factory rears about 240 mainly on the waste from butter and cheese-making. Hens scratch a precarious living around the houses and yards.

Apart from the cultivated terrace lands the usual balanced holding has both woodland and hilltop *mato* (Fig. 3). The woodland is usually planted to conifers and a few eucalyptus. The conifers yield a cash income by sale of resin and there is an arrangement by which the peasants tap resin on Government trees. Much of the timber goes for pit wood or pulp. The eucalyptus is a recent innovation which here matures at nearly twice the speed of a conifer and has the further advantage that it will regenerate from a stump—this saves grubbing out and replanting. These characteristics commend it to the peasant. Planting of conifers by the Government forest service is progressing rapidly on land which is otherwise unproductive. The *mato* land is used for rough grazing and is a source of litter which is laid down both inside the yards, and in the adjacent lanes to catch the animal droppings which are an important source of organic manure.

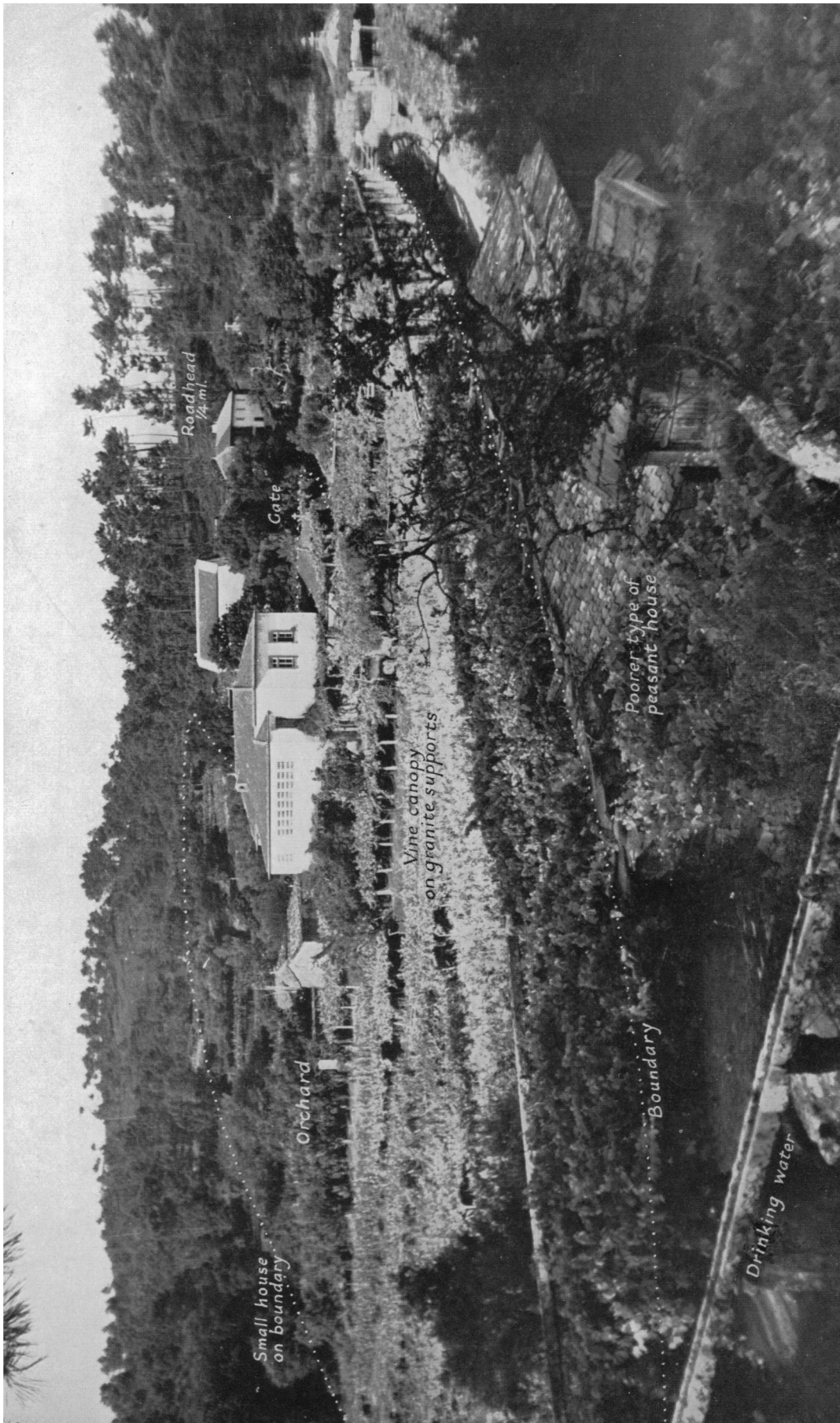
#### CROP IMPROVEMENT

Although the cattle are by no means free of tuberculosis most of the crops and animals seem to keep fairly clear of disease. An important exception is the potato; during the summer only a few potatoes are grown, but those which were seen were crippled by Colorado Beetle, and we understand that the main crop suffers similarly. The marginal nature of the economy leads to many practices which are undesirable both for the well-being of crops and of soil. Cutting grass for summer feed with a small saw-edged sickle results in a poor sod formation as compared with either natural grazing or more even mowing. Also, since the dung from the stall-fed animals is only applied to the arable land the permanent grass is deprived of manure although winter grazing helps to reduce these ill-effects. Seed is universally derived from the previous year's crop despite Government encouragement to use improved strains. Similarly, the land needs heavy liming but Government attempts to provide cheap lime have not yet brought it within the reach of the *Âncora* peasant. The simple question of cost is at present uppermost but with such a poorly educated community apathy or prejudice might still prove stumbling blocks. It is unfortunate that the peasant cannot see any practical demonstrations of improved practices locally. However, since the present yields are reduced by lack of water there does seem to be room for doubt as to whether the new strains would give their expected yields in the *Âncora* valley unless their introduction were accompanied by a general reorganization of agriculture, aimed at better water utilization.

From this agricultural activity the peasants derive what is generally a meagre living. Their diet is based upon a maize and rye bread, rice and a stew made mainly of vegetables with either dried cod, fresh fish or pork. They have a limited cash income from sales of wine, resin, timber, milk and livestock, but little margin is left after paying their small taxes and making essential purchases. They are, however, of a very cheerful disposition, and despite the widespread male emigration,

*Lower Valley of the Rio Âncora*





# VILA VERDE

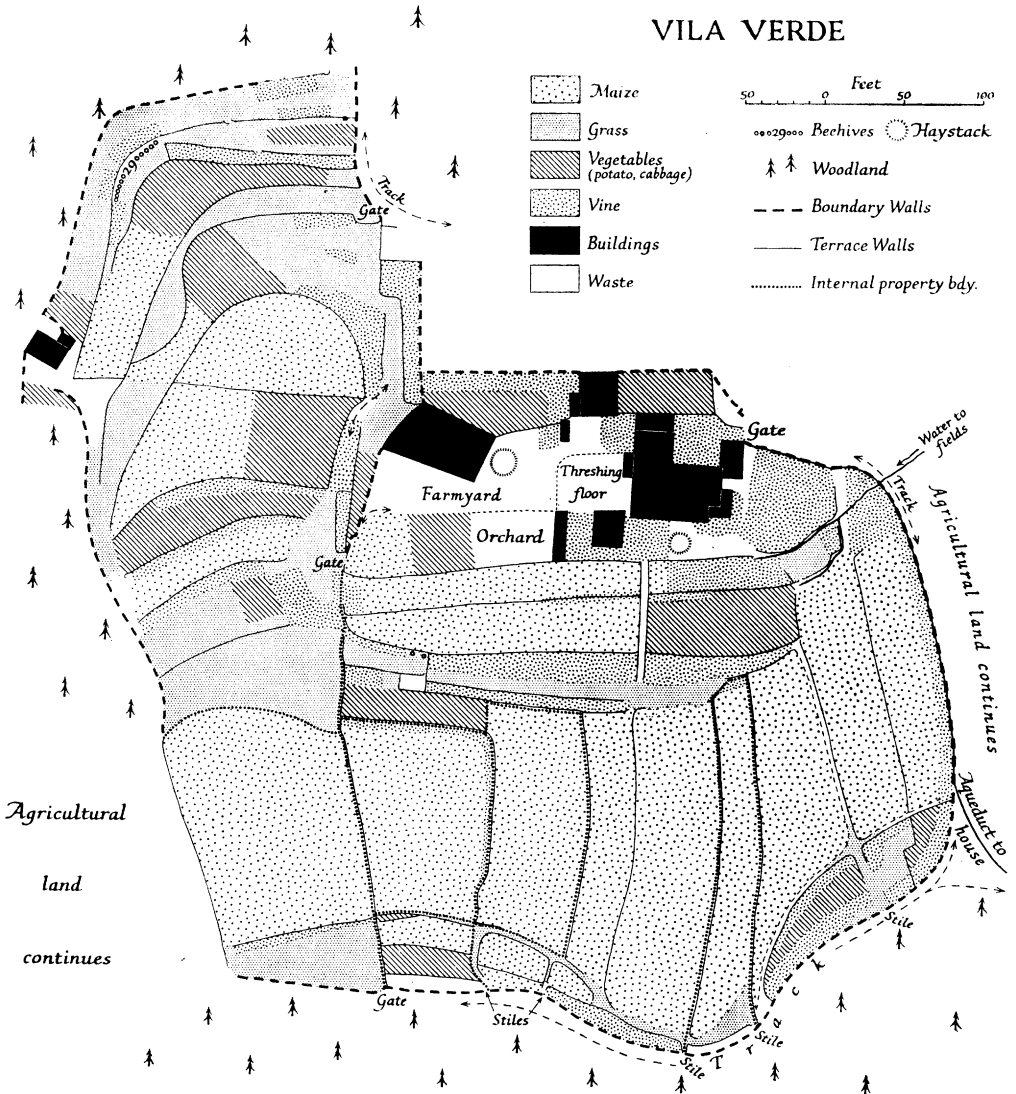


Fig. 7. This property is a prosperous one and, unlike the majority in the valley, has an adequate supply of water. The land is worked as a unit although the ownership is divided. The farmer has other land of his own elsewhere in the valley but lets it out on a share crop basis. Besides cropland, the property has woodland and mato on the valley sides. Individual fruit and olive trees have been omitted from the map but may be seen on the photograph. They are particularly numerous on the protruding tongue of rising ground. The stock consists of 6 cows, 2 bullocks, 2 pigs and some poultry. Five people are regularly employed. Apart from milk sold to the butter factory at Vila Praia de Ancora there is no regular sale of produce, although some maize, beef, wine and honey are sold where surpluses occur. The widespread use of granite in the aqueduct, vine support posts and buildings is characteristic of the district. Note, right foreground, the poorer type of peasant house. The road head just over the hill behind the house is recent and not often used for the business of the property, except by the farmer on his bicycle. Milk and other produce is sent down a two mile bullock track route direct to the main valley road.

the valley has a good deal of social stability and cohesion which it would be tragic to lose.

#### FACTORS OF CHANGE

The basic pattern of rural life received its last major modification with the introduction of maize in the late sixteenth century. However, this pattern now exists in a Portugal which is changing radically. The planned changes in national life run concurrently with other modernizing influences which have now entered the peasant scene. These began in the late nineteenth century with the railway and have increased steadily in importance. Their effect is impossible to measure in statistical terms but their results can be observed in local variations of economic development and way of life.

Predominant among the modernizing influences are the railway from Oporto built in 1878, the butter and cheese factory, established at Vila Praia de Âncora in 1894, and the road network which has developed particularly since the 1930's. In 1935 the National Forest Service was founded and besides extending woodland plantations has built a significant mileage of roads. The government have in recent years attempted to improve agriculture by research into better seed and stock and have sought to encourage the adoption of new practices by advertising and subsidized prices. Increasing emphasis is being placed upon elementary education, but illiteracy is still very high. The wartime demand for wolfram was of some benefit to the valley but with the end of the war all activity has ceased. Associated with these changes has been a limited growth of opportunity for paid employment, some of a permanent character and some, such as road construction, of a less permanent character.

Although the influence of these developments has been great in some very restricted cases the general effect on the valley economy has as yet been superficial for, whilst there has been an increase in opportunity for non-agricultural employment and cash trading, the census which we made at Orbacem (Fig. 2) has shown that this has only rarely broken down the basic dependence of each individual upon a plot of land.

The value of the rail link to the butter and cheese factory at Vila Praia de Âncora and for the movement of timber to Viana do Castelo is evident, but these activities themselves have not caused fundamental changes in the valley economy. In the valley the rural craftsmen have varied their trade a little in the face of imported goods but they still retain their position in the agricultural community by exercise of their traditional skills. Of the roads one notices the very marked contrast between the surface of the network built during the last fifty years and of the bullock tracks which feed into them. These tracks often have exceptionally severe gradients and are rutted, in rock, to a depth of 18 inches. The results of this situation are that while lorries can carry such commodities as fish, timber and milk quickly up or down the valley, the essential integration of the valley settlements, which for the most part lie slightly off the roads, is dependent upon human portage and the bullock cart. Although on the main valley and coast roads animal traffic declined by two-thirds between 1937 and 1950 <sup>1</sup> bullock carts licensed for use on roads still outnumbered mechanical vehicles in the valley by twenty to one in 1953.<sup>2</sup> Despite

<sup>1</sup> Junta Autonoma de Estradas—Estatistica de Transito 1937-8 and 1949-50. Special traffic census.

<sup>2</sup> Camara Municipal Caminha—Licence Records 1953.

a twice daily bus service running from Vila Praia de Âncora to Viana do Castelo via an inland route, most of the valley traffic continues on foot.

Opportunities for full time wage earning are a novel feature to the local economy but in terms of actual numbers the openings have not been very great. Most of this development is near Vila Praia de Âncora where in 1954 a total of 147 workers were employed out of a population of 3700. Of these 75 were in the timber mills, 12 at the butter factory, 49 in building and 11 in furniture making. The mineral industry is classified as "inactive." To these figures must be added the people who work during the summer in the tourist trade and also the 170 "deep sea" fishermen who sail in the cod schooners from more southerly ports but who live and spend their considerable earnings in Vila Praia de Âncora.

Neither in the Âncora, nor in the Minho generally, is it reasonable to consider emigration as a very potent factor of change in itself for it has been an accepted part of the peasant way of life for several centuries. However during this century there have been wide fluctuations in numbers emigrating each year. These short term fluctuations have been further accentuated by world economic conditions which affected the value of remittances home. The longer term change is that the Government are now seeking to finance permanent migration of entire families to Portuguese Overseas Provinces where they will be settled in planned colonization areas. Although at present only small in volume, this type of movement constitutes a potential factor of change in the Minho generally.

The degree to which the changes mentioned may be said to have had effect can best be seen by comparison of some of the lower valley settlements with more remote settlements in the upper valley like Tras-Âncora. Although in the former the subsistence pattern is still not broken, in the latter there is noticeably less cash influence and the people have a smaller share in the generally rising standard of life in Portugal. Particular mention was made in the upper valley of the difficulties in obtaining medical and veterinary services.

#### PROBLEMS EMERGING

In looking to the future and examining the problems which emerge from this study it is essential to bear in mind that the Âncora valley (in common with the Minho) is in general a happy community which has both social and, so far as can be judged, political stability. Dr. Salazar, who has for some time been facing the problem of integrating the Minho with general plans for development in Metropolitan and Overseas Portugal, has already emphasized that he does not favour any action that would tend to disrupt the social pattern. Whilst giving this point every consideration, however, it must be acknowledged that this stability is being undermined by those factors of change just mentioned. The trends towards a money economy, better education, and the increasing differential between the standard of living of the rural peasantry and that of urban workers all mean that the present stability cannot be regarded as permanent. Just as programmes of medical improvement in tropical countries prove socially unsuccessful unless economic plans are implemented simultaneously to provide for the increased population, so better education may worsen the position in the Âncora area unless economic plans are matched to it.

There are two aspects to the solution of these problems, one is to attempt the greatest possible improvement of the existing pattern of life, the other is radical reorganization related to the available resources. In view of both the dense

population and the high birth-rate these solutions find common ground in the need for emigration.

Figure 8 shows the percentage increase of population in five European countries. It is from the Recenseamento Geral da População 1950, and points to the rapid

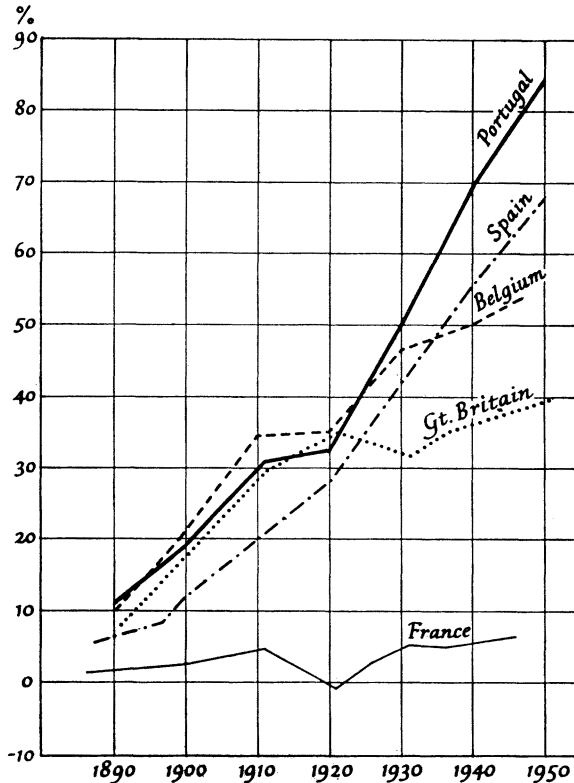


Figure 8. Increases of population

and continuing growth of population in Portugal. The Minho province has a rate of population growth well in advance of this national average.

#### THE WATER PROBLEM

The availability of irrigation water in the summer months is the dominant problem of *Âncora* agriculture. Its immediate effects are apparent in limiting the area of land which can be used for the irrigated maize crop; its repercussions extend into the field of the population/resource balance throughout the Minho. The expansion of water storage facilities to increase the amount available in the summer months is hampered by lack of capital. Peasant ingenuity has pushed the small scale schemes to their limit and even if government-backed large scale schemes were introduced, they would raise further problems by flooding productive land and consequently displacing peasant families.

The possibility of using the present water supply to greater advantage is more hopeful. The summer maize acreage is mainly for human consumption and it is suggested that some attempt might be made to throw greater reliance on winter



non-irrigated crops (e.g. the potato, if its pests can be controlled satisfactorily). In summer more intensive cultivation of improved strains of maize on a reduced acreage of land, and the substitution of fodder crops on the released land, would loosen the limitation on cattle rearing and improve the possibilities for dairy production from the Âncora valley. It is anticipated that better utilization of the available water will be achieved by concentrating higher yielding strains of maize on to a smaller acreage of land enabling the maize production to be maintained while fodder acreages are being expanded. The greater availability of manure and the increased cash income from dairying would justify the cost of better seed and lime. By eliminating the critical period of restricted cattle feed the way is open to take advantage of the unused dairying potential of the rest of the year. The facilities for marketing already exist in the valley, and markets for the produce will increase steadily with the rise in the standard of living.

#### POPULATION AND RESOURCE

Taking the wider view, the valley's agricultural problem is part of the overall problem facing the Minho. This is a very dense, predominantly rural, population living by a subsistence agricultural economy. Proposals for the Âncora valley must be viewed within the need to widen the use of the Minho's resources. These are an unskilled labour pool and, compared with the rest of Portugal, a moist equable climate (although one with the limitation of a summer drought). At present the severely limited area of cultivable land is fully occupied in supporting the families who farm it. Any major shift towards agriculture for market, or dairying, would therefore involve redistribution of population. Developments moulded on the Minho's natural advantages present a paradox for while increased stock and forestry are reasonable responses to the physical resources, both are low labour employers and intensify the employment problem. Industrialization in the Minho provides no very hopeful prospects of absorbing a displaced surplus as the overall rate of industrialization in Portugal is low and, apart from its labour, the Minho offers few attractions as compared with the pull of Oporto and Lisbon.

It is density of population above all else which presents the problem, current emigration is barely maintaining the *status quo* for the birth-rate remains high in spite of extensive male migration. This high birth-rate is the dynamic element in the problem and the population cannot be reduced unless emigration removes the whole family permanently from the Minho. In so far as future plans embody the idea of reducing the population rather than encouraging the present habit of long term "going away to work," they hinge upon the development of the Overseas Provinces particularly Angola and Mozambique. Dr. Salazar having in mind the need of these countries for population does not wish to see entire families emigrating to foreign countries and thus "lost" to Portugal. Settlement in the Overseas Provinces, however, in prepared colonization areas, is costly and Portugal has many demands upon her limited capital. Even with sufficient capital available the rate of safe absorption of settlers in the new territories might set a severe limit upon the speed of transfer and unless the movement can be speeded in the near future there is a danger that some of Portugal's scarce capital will have to be diverted to unprofitable subsidy in the Minho. The safety valve in the event of difficulty would be to facilitate family migration to foreign countries.

The working out of these wider elements of the problem are essential before an understanding of the Minho's future can be obtained. In presenting this paper, which has primarily related to one very local situation in the Minho, we hope to

have contributed to an understanding of a few of the great problems which face the Portuguese in planning the further development of their country.

Household	Total number resident in household	In Portugal		Working away from home			Overseas		Total working away from home
		Local area	Lisbon	Vila real	Europe	Spain	France	Brazil	
1	1							1	1
2	10								—
3	5								—
4	6								—
5	3		1						1
6	5		1						1
7	7								—
8	1								—
9	2								1
10	1		1						1
11	6		1						1
12	2								—
13	9								—
14	5								—
15	8								—
16	3								—
17	2								1
18	4		2						2
19	9								3
20	4					1			1
21	6		1						1
22	1								—
23	9		1						1
24	4	2							2
25	2		1		1			1	3
26	4								—
27	6								—
27	6								—
28	7		2		1				10
29	8	1						1	2
30	10			1					1
31	4								—
32	7		1						2
Total	161	3	12	1	2	1	14	1	35

MIGRATION FROM ORBACEM 6 Sept. 1954

Detailed breakdown of general picture given in Figure 2

## DISCUSSION

*Afternoon Meeting, 4 April 1955*

Before the paper the CHAIRMAN (Dr. E. W. H. BRIAULT) said: The purpose of the paper this afternoon by Mr. Hayes is to give an account of some work last year in Portugal. In 1953 three men, then in their first year at Cambridge, did some field work in northern Portugal. It was decided that they should return with a larger party in 1954 to undertake an expedition officially recognized by the Royal Geographical Society, Cambridge University and the Anglo-Portuguese Society.

*Mr. Hayes then read his paper*

THE CHAIRMAN: You will agree that we have listened to a most stimulating paper. I call on Dr. Houston to open the discussion.

Dr. J. M. HOUSTON: I should like to congratulate Mr. Hayes on his excellent paper, and in particular on his maps. I should like to raise a few points: though Mr. Hayes has covered a great deal of the territory and the subject matter, it is a pity that not