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A Sociological Analysis of Ngomahuru Isolation Hospital

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Introduction

Leprosy was once a widespread disease in many parts of the world. In recent years, however, improved hygiene, the segregation of lepers and especially treatment with sulfones and dapsone, which make open cases non-infective within two years, have greatly reduced the number of lepers, and have led to the arrest of the disease, or the cure of many. Yet in spite of this medical progress there are still over two million known lepers in the world, and the estimated number of infected persons who do not come for treatment is thought to be as high as twelve million (Harrison 1966: p. 1621).

Leprosy today is confined mainly to hot and moist climates, such as India and other parts of the tropics. In Central Africa more than one per cent of the total population are suffering from this disease (Boyd 1961: p. 295).

My interest in leprosy was roused in 1963, when the secretary of the Ngomahuru Isolation Hospital invited me to visit the camp. I paid several more visits to Ngomahuru, during which both African and European staff gave me information about the camp and showed me the various establishments. A young leper with an O-level certificate of education offered to undertake for me a social survey of all the lepers in the camp. It is mainly on this survey and on my interviews with the staff that this article is based.

Because my stay in Ngomahuru was brief, and mainly confined to interviews with staff members, I had no personal contacts with the majority of the

patients. Consequently this article differs from most ethnographic accounts in that it is not based on participant observation. This lack of participant observation has made a deeper analysis of social processes in Ngomahuru impossible.

The present article falls into two parts; Part I is subdivided into the following eight sections:

1. The history of the care of lepers in Rhodesia;
2. The lay-out of the settlement;
3. The settlement administration;
4. The origin of the patients and their age-sex distribution;
5. Their education and occupation;
6. Their marriage and family life;
7. The daily routine of the settlement with special reference to work, schooling, religion and recreation;
8. The cure of lepers.

Part II shows a tentative comparison between the leper population of Ngomahuru and the larger universe from which the lepers are drawn.

The aim of Part I is to show the social characteristics of hospitalised lepers, the attempts of lepers to build up a new community in Ngomahuru and their difficulties in reintegrating themselves into the wider society once they have been discharged as non-infective or cured. Part II attempts to draw some comparison between the social characteristics of these lepers and the social characteristics of the remaining African population of Rhodesia.

PART I

1. HISTORY OF LEPER CARE IN RHODESIA

Ngomahuru is at present the only leper settlement in Rhodesia. But this is a recent development. Like its two northern neighbours, Zambia and Malawi, Rhodesia had in the past, besides Government sponsored leper settlements, a number of smaller settlements run by various Christian missions. In fact, care for the lepers in Rhodesia was started in 1892 by the Dutch Reformed mission of Morgenster near Fort Victoria. In 1927 these missionaries asked the Government to take over this responsibility and the Ngomahuru Isolation Hospital was opened.

By this time the Government had already opened another leprosy hospital at Mtoko, called Mtemwa, which served the northern and eastern districts of Rhodesia. By 1956 steps were initiated to close Mtemwa, and its first patients were transferred to Ngomahuru.

Two smaller leper settlements were run by Christian missionaries at Mount Silinda in the eastern districts and west of Ngomahuru in Belingwe district. In the early 1950's both were taken over by the Government and their patients were transferred to Ngomahuru.

By 1962 the last lepers were transferred from Mtemwa to Ngomahuru. At that time there were only some 300 lepers in Ngomahuru. With the closure of Mtemwa some 200 new patients moved into the camp. This number, however, was soon reduced when many many Africans from neighbouring territories were repatriated. Several groups of lepers were returned to Malawi and Portuguese East Africa. Yet in spite of the attempt to repatriate most non-Rhodesian lepers, 89 people from southern Africa, Malawi, Zambia, and Portuguese East Africa were still in Ngomahuru in 1963 when I had my census taken. The camp then accommodated 413 lepers. No information is available about the social characteristics of those lepers who were repatriated, so that no comparison is possible between those non-Rhodesian lepers who left and those who stayed. It is also unknown on which basis non-Rhodesian lepers were chosen for repatriation.

With the transfer of all lepers to Ngomahuru, Mtemwa has become a rehabilitation centre for crippled ex-lepers. In 1963 Mtemwa counted some 180 cured lepers, 70 of whom had come from

Ngomahuru. These people have been so seriously disfigured by their disease that they found it impossible to be reaccepted by their relatives in their home villages. Consequently Mtemwa has formed a permanent community in which its residents expect to stay for the rest of their lives. These people are looked after by a European doctor and an African staff of orderlies and nurses. Since they are no longer suffering from leprosy, but merely from its after-effects, i.e. they are cripples, attempts were made in 1963 to shift responsibility for them from the Medical Department to the Department of Social Welfare.

2. THE LAY-OUT OF THE SETTLEMENT

Ngomahuru Isolation Hospital lies 30 miles south of Fort Victoria. It is bordered in the west by the Tokwe River, and in the north, east, and south by an African Purchase Area. The area covers some 900 acres. Besides the Tokwe River, the settlement is well watered by six streams, two of which are tributaries to the Tokwe River. All buildings are situated in the western half of the camp, between the Tokwe River and its two tributaries. The eastern and northern part of the camp is hilly and used for agricultural purposes.

The settlement is fenced off from the African Purchase Area, and its three gates are attended by gate-keepers to prevent patients straying outside the camp. The nearest bus stop is five miles away.

Ngomahuru Isolation Hospital falls into three sections:

- (a) six compounds for the patients,
- (b) the social centre with the hospital and the administrative and recreational buildings, and
- (c) the staff quarters.

The oldest of the six compounds, built in 1927, is situated near the main entrance of the camp. The other five more recently built compounds lie on a main road leading to the Tokwe River. Two of these compounds are for women, and face the three compounds for men, one of which is predominantly occupied but cured by crippled, ex-lepers.

A former T.B. hospital, the office buildings, the isolation hospital itself, and a Beit Hall used for schooling and recreational activities, form the link between the old and the new compounds. A store at the cross roads, rented by an African

from a nearby Tribal Trust Land, separates these areas from the staff quarters.

To the east of the store stand houses formerly occupied by European lepers. These lepers, however, have either died or been discharged as cured. (Note.—In the 1950's there were four European lepers in the camp: two were discharged, one died and one committed suicide.) Hence these houses are now occupied by African staff. South of the African staff houses lie the European staff houses, and east of these the school for the children of the African staff. Two pumps at the Tokwe River supply the camp with water.

(a) THE COMPOUNDS

Of the six compounds, four are occupied by men and two by women. The oldest compound consists of five rows of twelve pole-and-mud huts each, followed by a row of kitchens. All the doors of the huts face north. Some of the huts are decaying, and no longer inhabited. The huts were originally built under the supervision of a European. No patient ever built his own hut, but gangs of patients worked together, and were paid for their labour. The huts are rebuilt whenever necessary. Many of the huts are decorated with wall paintings and each hut is occupied by one or sometimes two, men.

The atmosphere in this compound is like that of an ordinary village. The compound has also the disadvantage of many a village that water has to be fetched from a distance. However, many patients prefer this compound to the others, because they consider it a great advantage that it is further away from supervision than any of the other compounds. The majority of patients in this compound come from Malawi and the Zambezi valley.

The other five compounds consist of white-washed stone houses, each containing one or two spacious rooms. Two to three persons live in one room. Adequate washing facilities and kitchens are provided. The majority of patients in these compounds come from the Karanga, Zezuru, and Manyika and Ndau areas. These compounds resemble modern accommodations in African townships. The men's and women's compounds are separated by a fence and, officially, no person may cross the fence during the night.

At their arrival, patients can choose the compound in which they wish to live and unless that compound is overcrowded, which is rarely the

case, their choice is accepted by the administrators of the camp. In this way there is a slight tendency for men from the same home area to live together. No separation based on the type or severity of the disease is enforced by the administration.

(b) THE SOCIAL CENTRE

The most important building of this part of the settlement is the hospital itself. It is one of the best equipped leprosy hospitals in Central Africa. It consists of an examination room, an X-ray department, a medical store with adequate drug supplies, modern sterilisers, and a theatre where amputations and other operations take place. Seriously infectious patients are kept in two wards, one for men and one for women. These wards, however, are seldom filled to capacity. The majority of patients receive tablets, which they are expected to take regularly in their compounds. Several checks, mainly through compound heads, ensure that medicine is regularly taken. Every three months each patient has to report to the hospital where an exact examination of his health takes place. If his leprosy is arrested or cured, he is discharged.

Next in importance ranks the Beit Hall, which serves as a classroom for leper children, harbours a library of some 300 books, and accommodates groups for various recreational activities.

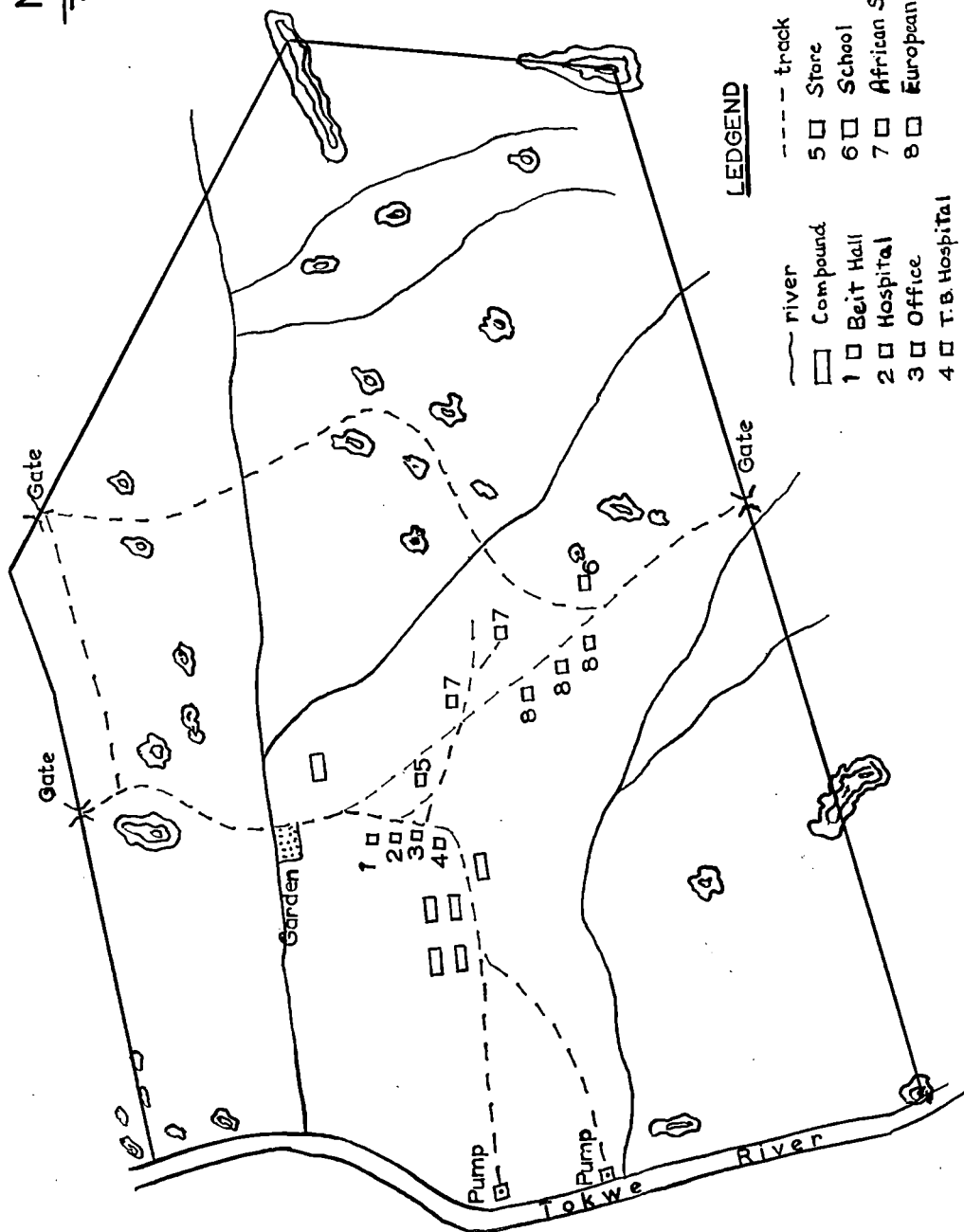
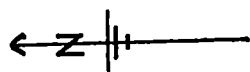
(c) THE STAFF QUARTERS

The only social centre in the residential area for the staff is the lower primary school for African staff children. Europeans send their children to boarding schools. In fact, the social life of staff members, especially that of Europeans, takes place outside the settlement and most of them visit Fort Victoria to enjoy a full social life.

3. THE ADMINISTRATION

The most important person in Ngomahuru is the medical superintendent who is responsible for the running of the settlement. He is not merely concerned with the health of the patients, but also with their social needs and problems. Consequently he is their highest court of appeal in disputes between them and staff members. He also forms their only link with the outside world. For example, should employers still owe the patients part of their wages, the doctor writes for them to see that their money is sent to them and put in a Post Office saving account.

Ngomahuru Isolation Hospital (MAP 1)



LEDGEND

- | | |
|-------------------|--------------------|
| river | --- track |
| □ Compound | 5 □ Store |
| 1 □ Beit Hall | 6 □ School |
| 2 □ Hospital | 7 □ African Staff |
| 3 □ Office | 8 □ European Staff |
| 4 □ T.B. Hospital | |

3.75
miles.

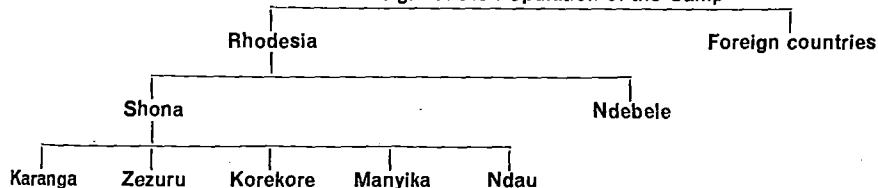
The sections of the administration, with which patients most frequently come into contact, are the compound administration, the medical establishment, the educational section and the farm management. The compound administration is of special interest. A European compound manager forms the link between the patients and the medical superintendant. This manager is responsible for ensuring that the patients come regularly for examination, take their medicines, have sufficient food and clothing, and that cleanliness is preserved in all compounds.

compounds. If the matter is serious, the manager reports the matter to the doctor.

The compound heads are responsible to the compound manager for seeing that all patients in their compound report regularly for treatment and take the tablets given to them. They also have to report any deterioration of health in any member of their compounds.

Compound heads frequently mediate between the patients and various officials. For example, if disputes arise between the patients and the European farm manager, the compound head first

Diagram I
Origin of the Population of the Camp



The compound manager is assisted by six compound heads, one from each compound, to whom he delegates part of his duties. All compound heads are men, even those of the women's compounds. They play in many respects a role similar to village headman in the rural areas of Central Africa. The office of compound head confers prestige and certain privileges on its holder, such as a monthly salary of £2. 5s. 0d., and the control over a transistor radio for the compound. Hence the position is an envied one. Every morning, the compound heads report to the compound manager whatever happened in their

tries to settle the case, and only if he fails will the case be forwarded to the compound manager or doctor. The doctor has no judicial power, and when a law is broken the case has to come before the magistrate who visits the settlement regularly. A constable of the B.S.A. Police is constantly stationed at Ngomahuru.

4. THE ORIGIN OF THE PATIENTS AND THEIR AGE-SEX DISTRIBUTION

The African population in Rhodesia is drawn (a) from this country itself, and (b) from neighbouring territories that provide labour for Rhodesian industries. The indigenous African popu-

TABLE I
Place and Origin of Lepers in Ngomahuru

Birth Place	Males		Females	
	Frequency	%	Frequency	%
Rhodesia	200	73	124	89
Karanga	44	16	13	10
Zezuru	48	18	14	11
Korekore	70	25	76	56
Manyika and Ndau	18	7	6	5
Ndebele	20	7	9	7
Foreign Countries ...	75	27	14	11
Malawi	30	11	4	3
Zambia	19	7	4	3
P.E.A.	18	6	5	4
Southern Africa ...	6	2	1	1
Tanganyika	2	1	—	—
TOTAL	275	100	138	100

lation belongs to two large tribal groupings, namely the Shona and the Ndebele. The Shona are subdivided into five dialect groups: the Karanga around Fort Victoria and Gwelo; the Zezuru around Salisbury; the Korekore in the Zambezi valley, and the Manyika and Ndau north and south of Umtali.

Various minor tribes live in these areas, such as the Tonga in the Zambezi valley and the Shangaan in the south of the country. In this article they are subsumed into the larger groupings, so that Korekoreland, for example, includes the Tonga, and Ndebeleland the Shangaan.

Lepers in Ngomahuru come from all these regions, as Table 1 shows.

In Part II the proportion of lepers from these various regions will be compared with the populations living in these regions.

The following is the age-sex structure of the patients in Ngomahuru:

(Boyd 1961: p. 295). Another medical scientist agrees that the incubation period varies between 6 months and 20 years, but contests the statement that children are particularly susceptible to the disease. On the contrary, he writes that only 20 to 50 per cent of infants born to leprosy parents will show signs of leprosy by the age of five, if they remain constantly with their parents (Harrison 1966: pp. 1621-2). This author in fact states that children show a special resistance to leprosy, and often recover unexpectedly in a very short space of time.

In his lecture at the University College of Rhodesia in March 1968, Dr. Brown also stated that leprosy is difficult to catch; that only five per cent of all leprosy husbands pass on leprosy to their wives in spite of regular sexual intercourse; and that children, breast-fed by leprosy mothers, never catch the disease if the mothers are treated with dapsons. The reason is that through their

TABLE 2
Age-Sex Distribution

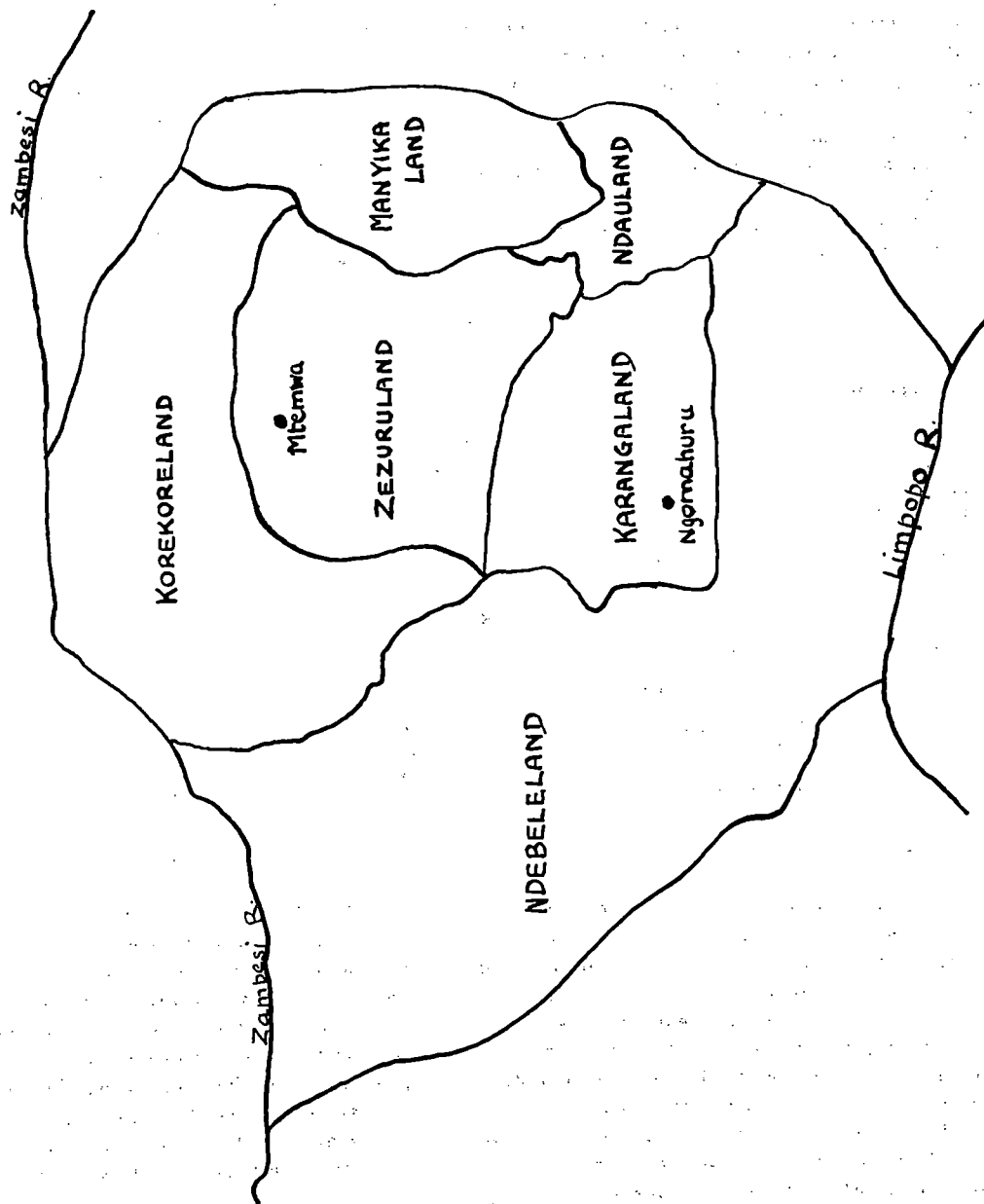
Age	Males		Females	
	Frequency	%	Frequency	%
0—4	1	·4	1	·7
5—9	5	1·8	3	2·2
10—14	19	6·9	4	2·9
15—19	24	8·7	4	2·9
20—24	28	10·2	5	3·6
25—29	31	11·3	10	7·2
30—34	40	14·5	13	9·4
35—39	42	15·3	25	18·1
40—44	33	12·0	21	15·2
45—49	29	10·5	20	14·5
50—54	12	4·4	16	11·6
55—59	5	1·8	6	4·4
60—64	2	·7	4	2·9
65—69	2	·7	3	2·2
70—74	1	·4	2	1·5
75—79	1	·4	1	·7
TOTAL	275	100·0	138	100·0

Table 2 shows that there are very few children suffering from leprosy, that the incidence of leprosy decreases in the 50-years and plus age groups, and also that the number of men far outnumber the number of women. In fact, approximately two-thirds of all patients are men, against only one-third of women.

Boyd's "Textbook of Pathology" states that infection is believed to occur in early childhood, but that the disease may remain latent for 20 years

mother's milk, children receive a low concentration of dapsons, immunizing them. However, as soon as these children cease to be breast-fed, and so no longer receive this low concentration of dapsons, they become capable of infection. Consequently the children at Ngomahuru are removed from their mothers after weaning, in order to reduce contagion as much as possible. Mothers are urged to send their newborn children to their relatives in rural areas or, if no relatives are willing

Map of Rhodesia (Map 2)



to accept these children, the hospital staff finds them places in orphanages. The hospital staff also prohibits children from visiting their sick parents. Both the natural resistance of children towards leprosy, therefore, as also the precaution of the hospital staff, contribute to a very low number of leprosy children. The long incubation period too, may account for the low figure of leprosy among children and adolescents.

As to the decrease of the incidence of leprosy among older people, a medical scientist states that clinically recognised leprosy decreases with age (Harrison 1966: p. 1622).

other part of Central Africa. Further medical and social research is required to explain the different propensity to leprosy among men and women.

5. EDUCATION AND OCCUPATION

Before embarking on this study of the population of the Isolation Hospital, I was under the impression that the lepers come from the lower social strata of African society. Consequently information was gathered regarding their education and occupation. The results are set out in Tables 3 and 4. In Part II these findings will be compared with the education and occupations of non-leprosy Africans.

TABLE 3
Education

Education	Men		Women	
	Frequency	%	Frequency	%
Nil	118	43	110	80
Lower Primary	122	44	25	18
Upper Primary	32	12	3	2
Post Primary	3	1	—	—
TOTAL	275	100	138	100

TABLE 4
Occupation of Men

Occupation	Frequency	%
Rural unskilled	103	37
Urban unskilled	101	37
Skilled	57	21
White collar	11	4
Business	3	1
TOTAL	275	100

The startling difference in numbers between men and women patients is also accounted for in the above study which states that "lepromatous leprosy is more prevalent in males." (Harrison 1966: p. 1622). No medical research has as yet found an explanation for the different reaction of male and female organisms to the disease. It does not seem that such social factors as the greater mobility of men contribute to a spread of leprosy, for in that case Korekore women should have a much lower incidence of the disease than all the other categories of people represented in the settlement, because these women have very little contact with the outside world. However, as Table 1 shows, more women of the Korekore country are in the settlement than people from any

6. MARRIAGE AND THE FAMILY

Leprosy is feared by Africans and many lepers are treated as social outcasts. Some families and neighbourhoods, however, are less severe on their sick than others. It still happens that a leper is kept by his relatives in the remote rural areas, is given a hut and fed and looked after. The fact that leprosy is not as contagious as, for example, T.B., makes such behaviour possible.

In the more developed areas of Rhodesia, however, relatives tend to exert pressure on their sick to go to the Isolation Hospital for treatment. The news that this disease can now be healed has spread and many persons come of their own accord. The attitude of friends and neighbours is, therefore, of great importance in studying marriage

stability and family life of the patients resident at Ngomahuru.

Families do not tend to break up when either the husband or the wife falls ill. On the contrary, spouses frequently visit each other at Ngomahuru and visitors are allowed to stay for two days a week in non-occupied huts. Special quarters for visitors are not yet available. Visitors who come from afar are given accommodation for a week at a time. Only children are excluded from visiting their parents. Hence leprosy does not necessarily lead to a break-up of marriage and family ties, as long as the patients are still in the settlement. What happens after their discharge, however, needs further investigation, because other concomitants of life in the Isolation Hospital, such as a very high rate of adultery, may produce divorce when the spouses are reunited.

Ninety-six, or 34.9 per cent, of the male lepers are bachelors, and 28, or 20.3 per cent, of the women are spinsters. Of the remainder, 139 men, or 50.6 per cent, are married, and the marriages of a further 40, or 14.5 per cent, ended in either death or divorce. Among the women 75, or 54.4 per cent, are married, and the marriages of 35, or 25.3 per cent, ended in either death or divorce. Almost all women in this category are widows. The average number of children per female patient in the settlement is two to three.

7. DAILY ROUTINE OF LIFE IN THE NGOMAHURU SETTLEMENT

(a) WORK

Life in Ngomahuru follows a time-table. Every morning patients are asked to work for three hours. Their payment varies between 2d. and 6d. a day, depending on the kind of work they do. Some are said to earn up to £3 a month, the majority, however, acquire about £1 a month through their daily labour. This money is meant purely as pocket money, since food, lodging, medical treatment and recreational facilities are free of charge. Pocket money is desired to buy goods at the local store, beer brewed by the women, and sexual favours. The settlement administration considers the three working hours as therapy, helping people to adjust themselves to their new community.

After these three hours the patients are free to do what they like. Those who are interested in gardening, are allocated garden plots to grow additional food. These plots, usually about half

an acre in size, adjoin the compounds. They are meant to supplement weekly food supplies by choice food for which patients have special likings.

Food in the form of mealie meal, vegetables, meat, sugar, and salt is given out every week on a fixed day. Patients are also allowed to fish in the rivers of the settlement, and fish constitutes a desirable addition to their food.

(b) SCHOOL

For the younger members of the settlement schooling is the most important activity of life in Ngomahuru. The school goes only up to Grade 5, yet even teenagers attend the classes because the administration is keen to give them some basic education, as in their early childhood they had no chance of studying. Moreover, staff members are concerned that boys and girls be regularly occupied during the day. Because leprosy is now cured within some two or three years, higher grades are judged uneconomic. Those, however, who wish to pursue private studies are given the help they need, and special evening classes are held for adults. Several people study up to Grade 8, and some have passed their Junior Certificate by correspondence. Two teachers conduct the classes, one of whom is himself a leper; the other is Government employed.

A second school is run at Ngomahuru for the children of African staff. This school was opened in 1957, going up to Grade 3, and by 1966 had opened Grades 4 and 5. Owing to a constant reduction of staff at Ngomahuru, the school does not grow. In 1968, 39 boys and 23 girls were enrolled. A further two teachers conduct the classes for these children.

(c) RELIGION

A large variety of churches are represented among the lepers, especially the Roman Catholic and Anglican Churches. Table 5 gives the religious affiliation of the lepers.

The strongest denominations in Ngomahuru are the Roman Catholics with 51 members; next in strength are the Anglicans with 39 and the Dutch Reformed with 37 members. These are followed by Watch-Tower with 20, the Salvation Army with 18, and the Methodist with 17 members. The other Protestant Churches have fewer adherents in Ngomahuru.

Weekly religious services, presided over alter-

TABLE 5
Religious Affiliation of Lepers

Religion	Men		Women	
	Frequency	%	Frequency	%
Traditional Religion ...	107	39	65	47
Various Protestant Churches ...	110	40	45	33
Roman Catholic ...	37	14	14	10
African Independent Churches ...	15	5	14	10
Moslems ...	6	2	—	—
TOTAL ...	275	100	138	100

nately by ministers of the major denominations, attract almost all patients in the settlement; irrespective of their own denomination. Many Africans from the more remote areas meet in Ngomahuru Christianity for the first time in their lives. Religious services become great social occasions to the lepers in their often monotonous life. They are also the only social occasion on which patients and staff meet together.

It is difficult to say to what extent religion plays a part in the lives of the people, apart from these formal occasions. Much depends on the initiative of individual patients. For example, in 1963 an African Sister of a Catholic Congregation was a patient in the settlement, and regularly gave religious instruction to some 60 patients, both to those already baptised and to those who were not yet Christians. When she was discharged, no more religious instruction was given.

(d) RECREATION

Social life is well developed in Ngomahuru. The hospital is a meeting place for gossip, and the adjoining Beit Hall for recreation and study. Foremost among the various recreational activities ranks the African Women's Club, organised by the wife of the medical superintendent. Together with the matron of the hospital, she meets some 80 women once a week for two hours, during which

she gives instructions in mending, patching and simple sewing. This club is not affiliated to the national organisation of women's clubs, because the patients are financially unable to pay the yearly subscription fee, and also because their stay in the camp is too short to guarantee a permanent membership. Consequently patients are advised to join local clubs in their home areas on their return. In the absence of Government assistance, the club relies on free gifts from hospitals and other organisations providing them with simple material and equipment. This club enjoys great popularity among the women who love sewing their own clothes, which they wear on Sundays and feast days instead of the khaki clothes provided by the administration.

Other voluntary associations are scout and girl guides under their own leper leaders, and a football club. Christmas and other feasts tend to be marked by athletic contests, concerts and public celebrations. In most of these recreational activities people of the same area group together, and friendships which evolve out of such associations are frequently continued through letters and visits when patients are discharged as being no longer infective, or as cured. This shows that a sense of community is created in the settlement which, based on a common disability, lasts even

TABLE 6
Fluidity of Patient Population in Ngomahuru

Changes in Patient Population	Males	Females	Total
Patients on the register in January 1964 ...	417	222	639
Admitted during the year ...	203	76	279
Readmitted ...	12	7	19
Discharged ...	189	89	278
Deserted ...	21	11	32
Died ...	5	4	9
Patients on the register in December 1964 ...	417	201	618
Outpatients ...	143	88	231

beyond the common stay in the Isolation Hospital.

8. THE CURE OF LEPROSY

The number of patients in Ngomahuru fluctuates over the years. In 1964 over 600 patients were in the settlement, i.e. some 200 more than in 1963. The following figures give a brief impression of the turn-over of patients during a year.

The fact that some 300 patients are admitted during one year, and that just below 300 were discharged, bears out the claim of the administration that the population is very fluid. Moreover, these figures indicate that the average patient stays only a limited number of years in Ngomahuru, though few if any are discharged earlier than two years after their arrival.

The possibility that length of stay in the settlement is correlated with the length of time a patient suffered from leprosy before coming to Ngomahuru is explored in Table 7.

camp only for a short period, there does not exist a correlation between the length a person has been sick before seeking admission and the length of stay in the camp, as the correlation coefficient shows. A mere inspection of the table also indicates that the majority of those who waited for many years before coming for treatment, have stayed two years or less in the camp, and the majority of the more permanent residents of Ngomahuru were aware of their sickness for only a short time before they came for treatment.

The great majority of people whose stay in Ngomahuru is brief, proves that with the introduction of new drugs leprosy has definitely ceased to be a disease lasting the better part of a patient's life.

Leprosy is not a fatal disease. Few people die in Ngomahuru and the settlement's Crude Death Rate of 14 per 1000 of the population is the same

TABLE 7
Correlation between Length of Disease before Admission and Length of Stay in the Settlement

		Years of disease before seeking admission												
Years of stay in settlement	Years	0	1	2	3	4	5	6	7	8	9	10+	Total	%
	0	73	54	25	13	3	5	5	1	—	—	3	182	44.1
	1	32	44	16	—	1	—	1	2	—	—	—	96	23.2
	2	14	13	7	1	1	—	1	1	—	—	1	39	9.4
	3	8	6	8	—	3	—	—	—	—	—	—	25	6.1
	4	2	13	7	2	—	2	2	—	—	—	—	28	6.8
	5	3	10	4	3	—	—	—	—	—	—	—	20	4.8
	6	—	6	1	—	3	—	—	1	—	—	—	11	2.7
	7	—	—	2	1	—	—	—	—	—	—	—	3	.7
	8	—	—	3	—	—	—	—	—	—	—	—	3	.7
	9	1	—	—	—	—	—	—	1	—	—	—	2	.5
	10+	—	—	2	1	1	—	—	—	—	—	—	4	1.0
	Total	133	146	75	21	12	7	9	6	—	—	4	413	
	%	32.2	35.3	18.2	5.1	2.9	1.7	2.2	1.4	—	—	1.0		100.0

Correlation coefficient = 0.00014. This shows that there is no correlation.

Table 7 shows that over 67.5 per cent of the patients were aware of their disease for a year or less before they sought admittance to the hospital, and 67.3 per cent were a year or less in Ngomahuru. Also only some 4.6 per cent lived for six years or longer in their villages before they sought admission to the settlement, and 5.6 per cent were six years or longer in Ngomahuru. However, although the majority of patients sought admission to the camp shortly after they became aware of their disease, and although the majority were in the

as that of the African population of Rhodesia as a whole.

No information is available for the 32 patients who deserted the Isolation Hospital. It would be desirable to know the reasons for their desertion and above all their place in the community to which they returned.

Patients discharged as cured, or whose disease has been arrested, frequently find it very difficult to be readmitted in their village community. Some of them, therefore, prefer to stay at Ngomahuru.

As stated earlier, one of the male compounds is predominantly occupied by cured cripples who have been refused acceptance by their kinsmen. The policy of the administration in Ngomahuru is to send these men to Mtemwa at Mtoko, a settlement which now serves as a rehabilitation centre. The fact that many cured lepers refuse to be transferred and plead to be kept at Ngomahuru shows that they have found a home there, which satisfies their social needs. I suggest that the five per cent who have stayed for more than six years in Ngomahuru belong predominantly to this section of the population.

Although Ngomahuru is one of the best equipped leper settlements in Central Africa, attention is not yet directed towards physiotherapy and reconstructive surgery, which would enable ex-patients to return more easily to useful and productive lives in their communities. The reason for this is, that the cost of such surgery, which involves long hospitalisation, is very high. In spite of the fact, therefore, that some 50 to 75 per cent of all leprosy patients heal completely, without suffering any further evidence of leprosy (Harrison 1966: p. 1623), African lepers in Rhodesia, because of the marks of their disease left on their bodies, find reintegration a major problem. Further endeavours to help cured patients to readjust themselves to village life are therefore important.

In order to understand the problems of cured lepers, a sociological study should be undertaken of the men and women at Mtemwa. The results of such a study will throw light on the direction which such rehabilitation work ought to take in Rhodesia.

PART II

A comparison between the social characteristics of lepers in Ngomahuru with the rest of the African population in Rhodesia is beset with many difficulties. It is most important to remember that the following analysis does not deal with the total Rhodesian leper population, but only with those lepers hospitalized at Ngomahuru. As stated in Part I, not all lepers are brought for treatment, some are kept by their relatives in their homes. The hospital staff in Ngomahuru informed me that this happens with special frequency in remote Korekoreland. I shall point out further complicating factors as the analysis proceeds.

1. THE ORIGIN AND AGE-SEX STRUCTURE OF PATIENTS

In Part I I have given the percentages of lepers in Ngomahuru from the various parts within Rhodesia, and from outside this country. If these figures are compared with the proportions of the total population coming from, or living in, these regions, striking differences emerge: (a) lepers from outside Rhodesia are overrepresented in Ngomahuru, in relation to the proportion of foreign Africans in Rhodesia's African population. Whereas, according to the Population Census of 1962, 13 per cent of all Africans in Rhodesia are born outside, 27 per cent of all male lepers and 10 per cent of all female lepers in Ngomahuru are foreigners. If a large number of these foreign lepers had not been repatriated in the early 1960's, this proportion would be still larger. I therefore suggest that the Rhodesian leper rate is far lower than that of its neighbouring countries. The following observation corroborates this suggestion: it is reported (Boyd 1961: p. 295) that the percentage of known lepers in Central Africa is 1 per cent of the total population, but the percentage of known lepers in Rhodesia is only 0.02 per cent.

The analysis of non-Rhodesian lepers in Ngomahuru is further complicated by lack of information as to which territories the majority of patients were returned. It is possible that more lepers were returned to Malawi or Zambia than to other territories having lepers in Ngomahuru, or vice versa. Hence the percentages of non-Rhodesian lepers in Ngomahuru do not give us any indication of the frequency of leprosy in these countries.

It may be assumed that most of these foreign lepers are labour migrants because almost all African male foreigners in Rhodesia are labour migrants. Since few of these have their wives with them in Rhodesia, the percentage of foreign female lepers is relatively low. (b) Rhodesian born lepers in Ngomahuru show an unexpected distribution in comparison to Rhodesian born Africans, a difference which is significant at the 0.01 per cent level. In brief, the Manyika and Ndaui, who constitute 14 per cent of the country's population, account for only 9 per cent of the Rhodesian lepers in Ngomahuru; the Ndebele constitute 20 per cent of the country's population, but only 12 per cent of the Rhodesian lepers in Ngomahuru; the Karanga constitute 30 per cent of the indigenous popula-

tion, but only 17 per cent of the Rhodesian lepers in Ngomahuru; the Zezuru constitute 20 per cent of the country's population, but 18 per cent of the Rhodesian lepers in Ngomahuru; and the Korekore, who constitute only 16 per cent of the country's population, constitute as much as 44 per cent of the Rhodesian lepers in Ngomahuru. These comparisons indicate that certain districts seem to have a higher incidence of leprosy than others.

However, before such conclusions can be drawn, certain cultural and climatic factors must be taken into account. As stated above, the incidence of leprosy in Korekoreland is probably seriously under-estimated because of the practice of local people who hide their lepers and care for them in their homesteads. Yet even if this were not the case, the available data in themselves suggest an exceptionally high leprosy rate in that part of the country.

The low figure for Manyika- and Ndauland may be influenced by religious factors. An indigenous Zionist church, called "The Apostles of John Maranke", which originated in Manyikaland in the early 1930's, forbids its adherents to attend hospitals. Since this church has many adherents in the Eastern Highlands, a certain number of patients may be hidden. However, I have no information on this point.

I suggest that relatively few lepers are hidden in the other parts of Rhodesia, especially not on the central high- and middlevels. In 1967 I undertook a population census in the centre of Karangaland, including some 6,000 men, women and children. Although this sample included several persons suffering from mental illness, blindness, and other physical handicaps, it included not a single leper. It is unlikely that lepers would have escaped the notice of my field assistants and myself, because we lived in the same villages with the people we interviewed.

A further point to be borne in mind is the remoteness of Korekoreland from the main European settlements. Lack of close cultural contact, lack of hospitals and schools, and a very low standard of hygiene may well contribute to a higher rate of leprosy in Korekoreland than in other areas of Rhodesia.

It has been suggested to me that the dietary pattern of the Korekore, which differs from that of the remaining African groups in Rhodesia, may

contribute to a higher rate of leprosy. However, I lack information about diet.

The Karanga and Zezuru are both under-represented in Ngomahuru; nevertheless their percentage is fairly high when their contact with European culture is taken into account. Some past characteristics of leper settlements may explain this disproportion.

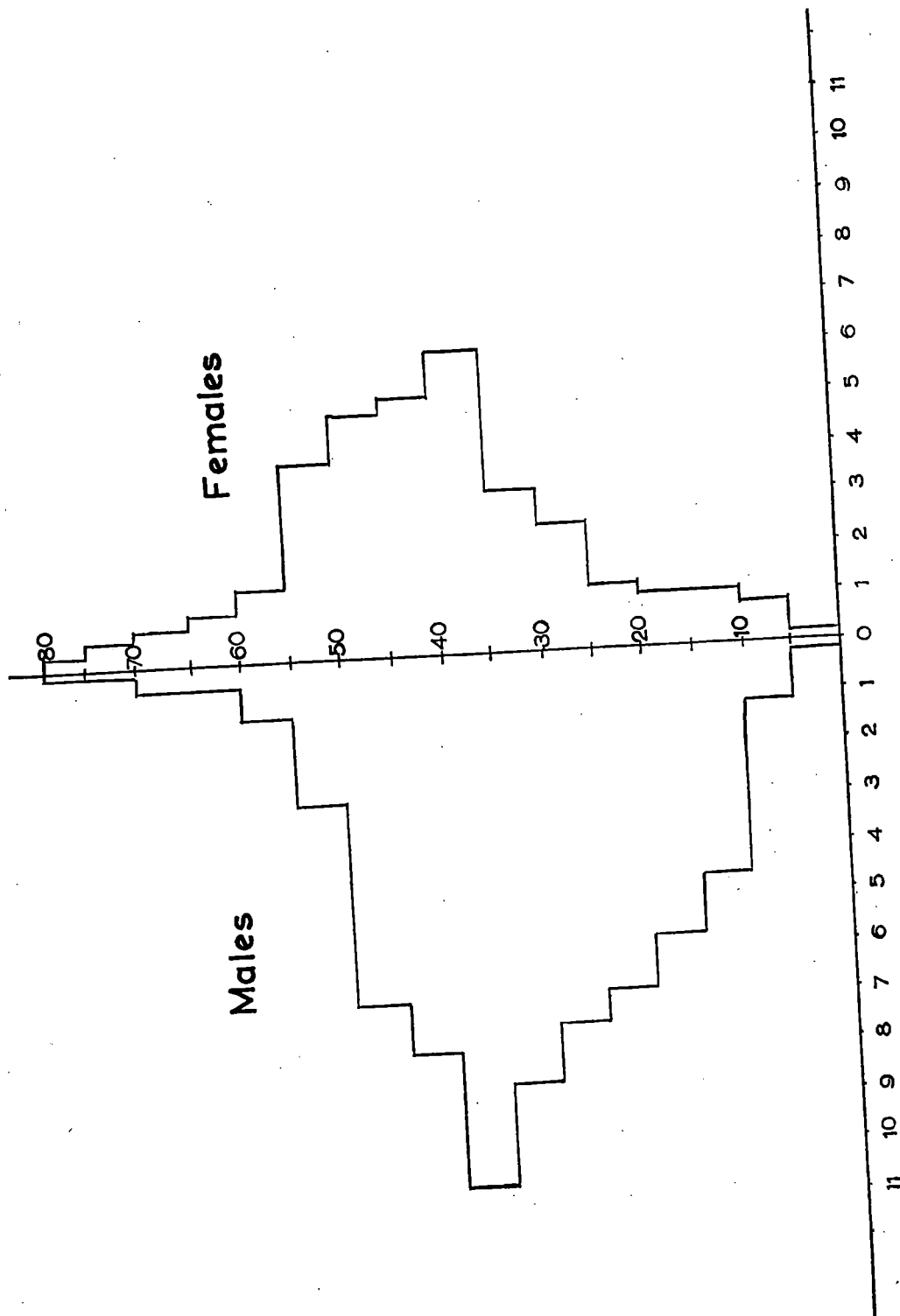
The hospital staff at Ngomahuru informed me that in the past patients were allowed to visit the surrounding areas, and so contributed to the spread of the disease among the Karanga. I frequently encountered great fear of leprosy in Victoria Tribal Trust Land, and a local chief bitterly complained to me of the proximity of the leper settlement to his chiefdom. Again and again he expressed his horror of "the people with wounds".

If lepers of the former settlement at Mtoko were also allowed to visit surrounding villages, the relatively high number of lepers from Zezuruland in Ngomahuru can be explained in the same way as the high number of lepers from Karangaland.

Accepting these cultural factors as possibly influencing the percentage of patients coming for treatment to Ngomahuru, I think that climatic factors are of still greater importance. The medical observation that leprosy is particularly common in hot and moist climates, seems better to explain the preponderance of patients from the Zambezi valley, and the relative absence of leprosy in the dry and cooler areas, such as Ndebeleland and Manyika- and Ndauland, and also the lower incidence of the disease in Karanga- and Zezuruland on the healthy high- and middlevels, than do the possible cultural explanations.

Population pyramids 1 and 2 show the profile of the leprosy population in Ngomahuru, and the national population pyramid of Africans, based on figures published by the Census Report of 1962. A comparison between the relative absence of children from the leper population and the great number of children in the national population, where children below the age of 15 account for almost 50 per cent of the total population, and the relative absence of old lepers in Ngomahuru with the number of very old healthy Africans, corroborates the observations made in the first part of this paper.

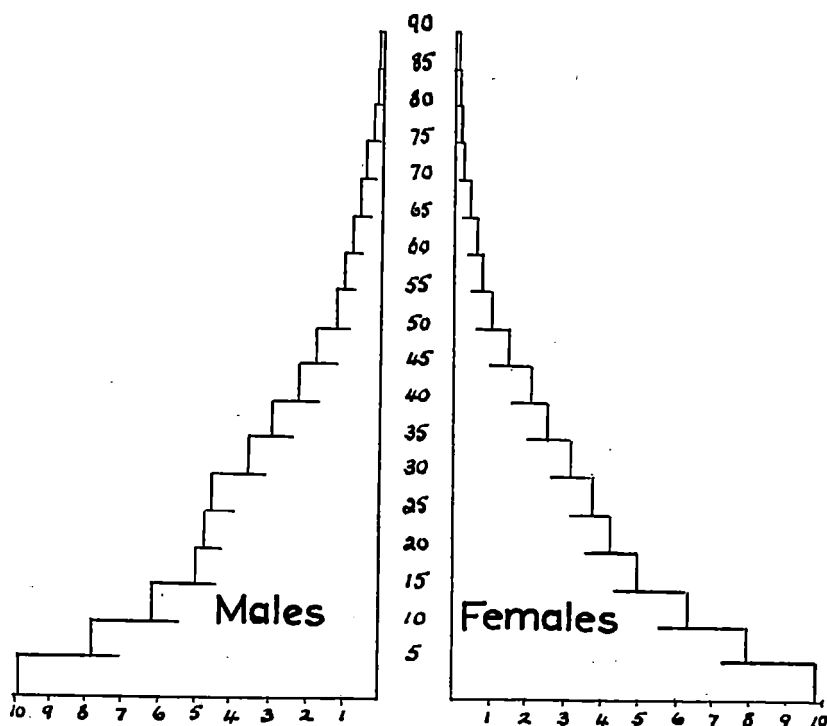
Population Pyramid of Ngomahuru



AGE & SEX STRUCTURE Rhodesia

African Population

1962



Total: 3,616,600

BR.48 D.R.14 Fert.ratio 876.

Source: 1962 Census, para 66.

2. EDUCATION AND OCCUPATION

I set out the educational achievements of lepers in Ngomahuru in Table 3, Part I. Table 8 gives the national figures of education, as published in the 1962 census.

TABLE 8
Education of all Adult Rhodesian Africans

Education	Men		Women	
	Frequency	%	Frequency	%
Nil	448,769	48	508,850	60
Lower Primary	344,080	37	280,020	33
Upper Primary	106,960	12	48,280	6
Post Primary	25,520	3	8,160	1
TOTAL	925,329	100	845,310	100

The χ^2 test of significance has been applied and shows that there is a significant difference between these two groups at the 0.01 per cent level, if the education of men and women are combined. The difference in education between sick and healthy men is far less than between sick and healthy women. This may mean that the educational standard of women has an influence on hygiene in the home. Such a difference could hardly have arisen by chance. The healthy population has achieved a much higher standard of education than the lepers in Ngomahuru. Among the men, the greatest difference exists in the numbers of those who obtained post primary education. Among the patients in Ngomahuru only one man holds a university degree, and another is a medical orderly with O-level certificate of education. All the others achieved much lower standards of education. Among the women, all levels of education are lower among the lepers than among healthy women.

These findings are of interest, since Dr. Brown stated that leprosy occurs among upper classes as well as among the poorest section of any population. He adds, however, that overcrowding, coupled with close contact with lepers, contributes to an increase of the disease. These conditions are more prevalent among the lower social strata.

These findings lead to the following considerations. Since in both sets of data we deal almost exclusively with an adult population (a few children are included in the Ngomahuru group), that is, with men and women well beyond school age, the possibility is ruled out that lepers, because of their disease, lack access to schools. Also, education

seems to contribute to more hygienic ways of living. The fact that we are dealing with adults and not with children, that is, with men and women who determine life in the home, such a conclusion bears more weight than if we were dealing with

school children who, when returning from school, have to follow the customs of their parents.

The fact that we do not know which lepers are hidden in their villages, the more educated or less educated, rules out further conclusions about the educational standards of all lepers in Rhodesia.

Very frequently, higher education leads to more skilled occupations and to white-collar jobs. This suggests that healthy Africans with higher education may perform more skilled occupations. Unfortunately, no national figures of African occupations are published. My own survey, based exclusively on Karangaland, shows a much higher percentage of skilled and white-collar workers than does the leper population. However, since this survey is localised based, no general conclusions can be drawn from a comparison between this sample population and the lepers in Ngomahuru, who come from every part of Rhodesia and beyond.

3. MARRIAGE ANALYSIS

An analysis of the marriages in which one partner is a patient at Ngomahuru, and the marriages of healthy Africans, is beset by still greater difficulties than the preceding comparisons. No national figures on African marriage are published. The only figures at my disposal are those of my own census sample in Karangaland. Dr. Garbett published figures on marriage stability among the Zezuru, but did not give information on the length of extant marriages, nor on the average number of children per family. Dr. Garbett showed that 35 out of 172 marriages, that is 20 per cent, ended in either death or divorce. Among the patients in Ngomahuru 75 out of 289 marriages,

that is 26 per cent, ended in either death or divorce. In my Karanga sample 205 out of 716 marriages, that is 29 per cent, ended in either death or divorce. The test between these percentages does not suggest variations in marriage stability. I therefore tentatively suggest that variations in marriage stability between the other groups may also not be significant.

Keeping these reservations in mind, the following differences emerge between my Karanga sample, and the leper population at Ngomahuru: in the Karanga sample, the median length of marriage was about 20-29 years, against the median length of marriages among lepers at Ngomahuru of only 10-19 years. In fact, 191, or 89 per cent, of marriage among the patients in the settlement have lasted 5-39 years, with very few marriages, namely 16, or 8 per cent, less than 5 years, and only 7 marriages, or 3 per cent, for longer than 40 years.

I suggest that this peculiar distribution is a reflection of the demographic characteristic of the leper population, where the majority are young adults, with very few old people. This age distribution affects the median length of marriages among the lepers.

Keeping again in mind the serious reservation that no valid conclusion can be drawn from comparing a locally based sample census with that of the leper population drawn from all parts of Rhodesia, I would like to make the observation that there does not seem to be a difference in the number of children per marriage between these two groups. The difference is only significant at the 0.20 per cent level (χ^2 test).

This, however, does not reveal the whole story: since the patients in Ngomahuru are younger than

the general adult population of Rhodesia, more children are expected in this group. For leprosy does affect the fertility of men and women, especially when the illness is already advanced. The Crude Birth Rate at the settlement is as low as 20, against the country's total African Birth Rate of 48 per 1000. Leprosy causes miscarriages and still-births more frequently than these occur among healthy women, and men tend to suffer from sterility when their illness is advanced.

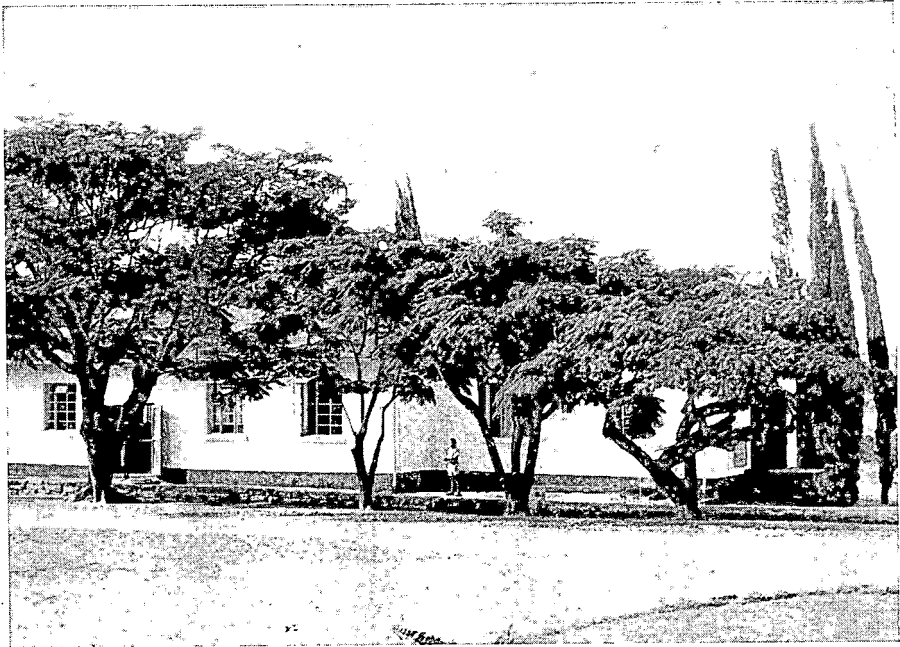
In addition to these factors, the unbalanced sex-ratio in the settlement too contributes to a lower birth rate. Moreover, each time that a woman has a child, her health deteriorates. Intercourse between lepers is, therefore, discouraged for reasons of health. Owing to the fact that husbands and wives are not living together, adultery and prostitution are frequent at Ngomahuru, and most of the children born to lepers are illegitimate.

CONCLUSION

The tentative analysis of Part II has shown that the problems involved in drawing conclusions, as to how far the leper population of Ngomahuru is similar or dissimilar to the general African population of Rhodesia, are very great. Insufficient information about the social characteristics of Rhodesian Africans in general, prevents any valid comparison. It is hoped that the national census of 1969 will fill in some of this lacking information, especially as regards occupations and marriage details of Africans. If this is done we will be left merely with the problem of the representativeness of hospitalized lepers for all lepers in Rhodesia, a problem which faces all countries in all continents.

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Ngomahuru Beit Hall.



Weekly distribution of food.



The old compound at Ngomahuru.



A new compound at Ngomahuru.



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