Mr. Chairman and Fellow-students:

I am glad to be asked to appear before another generation of medical students of this University. A few years ago I spoke to one generation. But for my departure for further studies overseas I should have had the pleasure and privilege of addressing another in September 1937.

I welcome the opportunity of thinking with you to-day.

I have suggested for a subject of our discussion this noon what I call "The Socio-Economic aspects of Native Health". This of course implies among other things - Wealth (or lack of it) and Education as factors in public health. We have to consider how far occupation, income and housing are likely to contribute to their ill-health. How far does their income-level permit them to supply for themselves the bare necessaries of life? Are they able to purchase and maintain their health and well-being by means of adequate food, suitable clothing, comfortable shelter? How far does their low income-level affect their employability and health? What diseases, if any, would suggest that their income levels and their education play an important part? Given good accommodation, are they able to maintain it? If not, why not? Once health is lost what means have they within their control to restore it? In other words, are they able to obtain regular and adequate medical care? Is there any relation between nutrition and sickness among them? How does this affect their industrial efficiency, and what is its effect on their National well being?

I believe that the prevalence and duration of illness among individuals, families or communities are conditioned by the income-level of the different classes.

Someone has said that when the family income falls below a certain level, the standard of living rapidly declines". It is generally true to say that Health determines the wealth, progress and happiness of a people. From the public health point of view or from the point of view of preventive medicine, wealth determines health...
health.

Our emphasis, therefore, will not be on death rates or mortality rates important though these are; but we wish to point out certain factors such as morbidity, impaired health, disablement, loss of earning capacity, chronic illness and finally death.

**PROBLEMS IN THE STUDY OF NATIVE HEALTH**

As soon as one desires to approach this subject of health seriously and intelligently one is up against the difficulty of the lack of vital statistics. As far back as 1934 in a lecture before the World Education Fellowship Conference in Johannesburg the present speaker pointed out how handicapped serious students of public health are because of the absence of vital statistics pertaining to the Non-Europeans. This is largely due to the fact that the census in South Africa in 1921 was taken for the whole population but for the quinquennia 1926 and 1931 respectively it was taken for white people only. In 1936 the census of the whole population was again taken.

The vital statistics in South Africa have been prepared for the Europeans only. Birth rates and deaths rates refer to Europeans only. Consequently our so called vital statistics in South Africa do not reflect the true picture or give a cross section of the state of health of the Union population. They are a sample selected with a bias and are likely to be misleading and valueless to one who wishes to know the whole truth about South Africa. There are no compulsory registrations for births and deaths among Africans in rural areas.

In discussing this question, therefore, we shall draw from personal observations and the experience of others as well as the Union Public Health report.

**WHAT ARE THE CAUSES OF DISEASES?** They are many and varied. The cause may be biological, bacteria and parasites.

1. Endocrinal and physiochemical disturbances.
2. Nutritional disturbances, and dietetic deficiencies.
3. Chemical poisons and irritants - Industrial diseases.
4. Psychopathological conditions.

However, of interest to our discussion are factors which predispose to disease, prepare the soil for infection to take place or disease to develop.

Some of these factors are:

1. Income-levels which influence.
2. Food supply and nutrition;
3. Fuel and clothing;
4. Housing……
(4) Housing conditions;
(5) Overcrowding;
(6) General economic and social conditions;
(7) Level of intelligence or education.

Income-levels determine the ability or not to purchase sufficient food, fuel and clothing. They have direct bearing on housing conditions and the presence or absence of overcrowding. All things being equal, they also influence the social conditions, the level of intelligence or education of individual families or communities. When incomes fall or are absent people go with little or no food, they are scantily or poorly clothed, they cannot afford fuel, they cannot afford adequate accommodation, they 'double up' to reduce expense and thereby lead to overcrowding and slum conditions. As a result they develop a bad state of nutrition. They suffer from exposure, they drift into dilapidated premises that are often unfit for human habitation and prejudicial to health. They are packed up like sardines with no amenities. They are devitalized. They become a suitable soil for any infection or contagion that may begin. Deficiency of food supply, leads to a bad state of nutrition, loss of efficiency for physical or mental work, reduced resistance to disease and even illness itself. The deficiency may be primary, that is (a) inability to get food in sufficient quantities or (b) Insufficiency of food accessories or vitamins.

It may be secondary, that is, inability for the body to use the food due perhaps to physiological disturbances or personal idiosyncracies.

The Africans or aboriginees in South Africa are suffering from increasing primary food deficiency or starvation more particularly since 1913. This has left them in a bad state of nutrition and poor physique. That is why mine recruiting agents reject them in large numbers. Even those who appear fit from casual inspection reveal their subnormal physical state as soon as they are put under stress and strain of labour. They must therefore be gradually built up and fed adequately before they are fit for a full day's job.

Such a state of affairs is a challenge for the powers that be to seek the root causes and remove them for this is remedial waste of human material and an economic loss to the victims of the system and to the country as a whole.

Taken as a whole, the Africans are the poorest section of the community. There are causes that are both fundamental and contributory to this state of affairs. The Natives Land Act (1913) which
segeregated Europeans from Africans in rural areas aggravated poverty among the African people. The Urban areas Act segregating Africans from Europeans in urban areas has had the same effect upon the town dwellers. The Colour Bar in Industry, the White Labour Policy and the restriction or exclusion of the African Industrial Labourer from certain industrial legislation awards has not only forced the African out of what seemed to be traditional employment but has tended to depress his wage scale. The result has been to doom the African as a worker to the lowest income-level possible in South Africa.

The Land Act (1913) made many Africans landless and homeless. Many lost their livestock - their only wealth - while trekking from pillar to post in search of land and hope. Thus they became poverty-stricken and destitute. The result was increasing overcrowding and poverty in the reserves. The limited land in the reserves became overcrowded and land became overworked and eroded through limited pastures.

Some Africans drifted towards towns there taking jobs at any rate of wages thereby reducing or keeping wages at a very low level.

Africans, therefore, in town and in the country cannot get sufficient wages. They can only get a limited food supply because of lack of means to buy food with.

There have also been repeated droughts which lead to crop failure and often death of their livestock.

All this tends to increase poverty and lead to starvation therefore a poor state of health if not starvation.

Where is the good physique of which the African had been known?

It has disappeared with his loss of land and pastures. This has led to scarcity of milk and meat because of the loss of herds and flocks. Formerly, these people often balanced their food with milk. To-day, they feed largely on mealie (pap) porridge, bread and tea. Such a diet is deficient in food accessories or vitamins and tends to lead to deficiency diseases later or morbidity and disablement.

The conditions must be serious because even the Native Affairs Commission reported that "the Commission has felt much concern at the signs of ill-health and general deterioration of the physique of the natives that are manifest in most reserves." In his Annual Report for the year ended June 30th., 1934 (see U.G.NO 40/34) the...
Secretary for Public Health, in referring to the excessive mortality among the Bantu has stated this high mortality must be attributed in the first place to the low social and economic status of the people which is "directly responsible for much preventable morbidity and mortality." And, he adds that most of the deaths among the Natives are due to starvation.

ENVIRONMENTAL FACTORS:

Housing. In modern cities housing conditions are considered an important adjunct to any public health scheme. The house should be fit for human habitation meeting a certain standard of fitness with all the amenities that are essential and conducive to health. Above all the house must be kept and maintained in this habitable state.

However, people of low income-levels and poor economic circumstances often of necessity find themselves leaving under slum conditions. They have no choice. Their present fate binds them there. Even when slum clearance is under consideration, the housing schemes for Africans are considered under the Urban Areas Act which is not a housing scheme but a segregation scheme. The standards of area and cubic space are much lower for Africans than for other sections. Besides, in order to satisfy the segregation policy the Africans are often put miles away from towns and places of their work without improving their economic level. Transport and rent eat up their money for food. The long periods spent between home and work is energy that a poor labourer needs to conserve for his work. The locations are often built with white labour which receives many times higher wages than the tenants to whom the municipality is going to rent the houses. These houses are often a shell of brick and iron, no doors between these small rooms, no ceiling, nor flooring. These tenants on the basis of our local municipal wages receive between 12/- to 21/- a week. With the advent of municipal beer halls, most men must take home much less for their wives and children, hence the family is deprived of money for food and starvation in the family follows. By the way, this municipal beer policy is a policy of "robbing Peter to pay Paul". It facilitates the daily expenditure on liquors of moneys that would otherwise go to wife and children. No Public authority that has the interest of the people at heart will ever embark upon a policy that will undermine the welfare and health of mothers and children who are the primary concern and charge of any progressive public authority.

Black labour should participate more freely in these building schemes. They should be paid adequate and higher wages. Rents should be economic and tenants should have opportunity to buy. Labourers should live near their places of work. They would thereby have more money with which to buy food and therefore better health.
The argument often is that we give our natives accommodation. However, many employers who pretend to give accommodation give poor accommodation indeed as the Union Public Health found in Natal in what is known as Housing of the Industrially employed non-Europeans in Natal. There were 270 estates in which there were 1,400 Indians and 1,400 Native Africans.

In table 0(ii) the Union Health report 1937 shows under "Suitability of Buildings" These were made of wood and iron, brick and wattle and daub native huts, and concrete shacks. The total number was 7,420 dwellings. The report states "Thus a total number of 7,420 dwellings has been inspected and reported on in detail. Of the number 14% are regarded as satisfactory and fit for human habitation according to present standards; 50% as being defective but capable of satisfactory alteration to render them fit for human habitation; 36% more than one-third as being so defective as to be totally unfit for human habitation and structurally incapable of satisfactory alterations. This means in effect, that at the commencement of this campaign, on the estates under review, some 86% non-Europeans employees and their dependents (where present) were living under unhygienic and unsatisfactory conditions. (p.9u:g 1936 ref.ii)

While there are no statistics to show the state of health of these people, some of us have seen many tragic results under such and similar conditions. Anyway, these people would work more efficiently and would be fitter under healthier and under better circumstances.

Overcrowding. The next and third factor is overcrowding which signifies the number of people inhabiting a unit room area. Overcrowding is measured by the number of persons living in an occupied room. Overcrowding as associated with high infant mortality was studied by Newsholme. He studied overcrowding and mortality in children under one year and between one and five years. The results were as show in the following tables:

<table>
<thead>
<tr>
<th>No of rooms per tenement</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Death rate</td>
<td>Under 1 yr.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>per 1000 living.</td>
<td>Between 1-5 yrs.</td>
<td>41</td>
<td>30</td>
<td>18</td>
</tr>
</tbody>
</table>

Death of children from various causes.

<table>
<thead>
<tr>
<th>Number of rooms</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pneumonia</td>
<td>6</td>
<td>6</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Infectious Diseases</td>
<td>16</td>
<td>12</td>
<td>17</td>
<td>3</td>
</tr>
<tr>
<td>Diarrhoea and Enteritis</td>
<td>32.8</td>
<td>25.8</td>
<td>14.9</td>
<td>16.8</td>
</tr>
<tr>
<td>Respiratory Diseases</td>
<td>39.8</td>
<td>35.5</td>
<td>26.7</td>
<td>20.0</td>
</tr>
</tbody>
</table>
Dr. Feldman says "the death rates from pneumonia and the chief infectious diseases of childhood are proportional to the degree of overcrowding.

"Chalmers, late M.O.H. of Glasgow, always stressed the relationship of housing to high mortality. In Glasgow the tenement houses is still common, and it has been shown that the expected years of life of males aged ten years in one-apartment houses are exceeded by 2.3, 5.56 and 6.13 years respectively in the case of males of the same age living in two three and four or more apartments"

"Magregor of Glasgow (Annual Report, 1926) has pointed out that as the size of the houses increases the incidence of pulmonary tuberculosis diminishes - more noticeably in the case of females (J. & P. A Synopsis of Hygiene p. 442)

We now come back to South African conditions on the question of Infantile Mortality. It is generally accepted that more people die before they are one year than at any other period of life. According to the Union Health Report 1936 infantile mortality among Europeans was 62.81 per 1000 live births. Of course among Africans it is estimated anywhere between 200-800 per 1000. Deaths are due largely to gastro-intestinal diseases and respiratory conditions. This figure for infantile mortality is not a true reflection of a correct state of affairs. While we are certain that the mortality rate is in 3 figures per 1000 we, however, are aware that there is more complete report of deaths than births as no one may be buried in urban areas without a death certificate. Many births are not reported and the discovery of their having been born is made after their death.

Gastro-enteritis the chief cause of infantile mortality among Africans is commonest during summer months and is associated with filth and flies. It is commonest among hand fed babies as a result of dietetic errors which are due to some changes which have taken place either due to bad preparation or no proper facilities for protecting food from infection or chemical changes.

Children of these people with low incomes are usually malnourished (or semistarved), badly cared for or neglected, live in squalid surroundings, nursed and nurtured in ignorance and many end in premature deaths from preventable conditions. In the majority of cases the people cannot afford medical advice for the baby until too late or only when death seems inevitable merely to get a death certificate. If special baby food is advised, they are often unable to supply it regularly and if available they may not be able to prepare and keep it properly partly because of ignorance or lack of proper facilities. Sometimes, the child is left with children only a little larger than itself because the mother must go out to work to supplement the low family income."
As antenatal, maternity and child welfare clinics are uncommon among the African people, the mothers have not had the opportunity of receiving instruction in baby care and feeding, since woman has no natural instinct for the proper upbringing of the baby. She must be taught.

Africans have no free milk supplies for children of necessitous parents.

As you know everything is being done not only to provide facilities for improving the health of the European mother and child but to establish a living wage scale for the European worker. South kitchens and meals are provided for necessitous Europeans but nothing for Africans. Is there a difference in the physiological make up of the African child that makes these things unnecessary for him. I do not believe so. Yet, it has been said with truth that the "child welfare work represents the safest and most fruitful investment which a nation can have?"

There are diseases that are indication that something is socially and economically wrong.

Let us take first Typhus Fever. During 1935: 6,826 cases were reported and 1,605 in 1936. The Secretary of Public Health in his report 1936 suggests that the decline to (a) Immunity of the last two years infection "The Second and probably very much more important reason is the return of some measure of prosperity (if such an expression could be justified) among the natives in the reserves. Typhus fever means or goal fever spells farther poverty which encourages filth, lousiness and overcrowding which favours transmission of infection. It was common in gaols, in armies and during famine. The disease occurs during winter months. Poor people have fewer clothing, less change clothings, limited, if any, washing facilities. Poor people tend to huddle together.

Most African boys or girls often share the same cover because of limited supply of blankets. In certain places a bar of soap is a luxury.

The Prevalence of Typhoid Fever Or Enteric is considered to be an indication of bad sanitary conditions of an area. During 1936 there were 4,384 cases - 2,949 non-Europeans and 1,435 Europeans. It is rare where modern sanitary provisions are made such as water-borne sewerage, good pipe water supply, protection of food and milk from contamination by carriers of human excreta.

Scurvy, is a disgrace in a wealthy community like South Africa. Ours is a country of abject poverty in the midst of plenty.

Tuberculosis. There were 8,896 cases reported in 1935 and 8775...
in 1936 according to the Secretary of Public Health. He observes that "the difference in these figures is so small that it conveys no information of any practical value, though improved economic conditions resulting in more suitable diets and improved housing conditions among the poorest classes of the community have, no doubt, played a part in producing fewer cases of the disease."

Table K. (i) gives the reported number of Tuberculosis in different areas in the Union in 1936 as follows:
- Cape Province, Europeans 511, Non-Europeans 4279;
- Transkei Europeans, 1, Non-Europeans 955; Natal Europeans 143, Non-Europeans 1,270; O.F.S. Europeans 28, Non-Europeans 186; Transvaal Europeans 109, Non-Europeans 1,273; Total Europeans 792, Non-Europeans 7963 per 100,000.

From the Annual Report of the Department of Public Health 1936 it is stated that "There are large Native areas from which widely differing reports have been received as to the incidence of the disease. Many of these reports are founded on Native hearsay. But, unfortunately, undoubted evidence is beginning to accumulate that the disease is making serious inroads on the health of the natives even amongst those who had not been exposed to urban or mining conditions. We, have the evidence of many medical men practising in these areas." More recently as a result of reports that the disease was attacking native children of school going ages the department arranged with Dr. Westlake Wood, District Surgeon of Bizana to examine the 2252 children.

The results were that 4.5% had Tuberculosis and 3.9% of the number examined had Pulmonary Tuberculosis.

In order for you with me to appreciate the significance of the medico-socioeconomic aspect of disease and especially tuberculosis, I only mention that in Great Britain the incidence of Tuberculosis rose from about 1915 and gradually declined after 1921 to prewar level. It is said it assumed almost epidemic proportions in asylums and gaols and among the poor populations similar reports during the same period are available for Prussia and France. 1914-1918 was a period of limited food supply. Food was scarce and dear. In other words, war conditions which meant rationing starvation for many classes of the billigement countries flavoured the increase of the incidence of Tuberculosis.

It is gratifying to record that the State through the Union Department of Public Health is doing much to stem the tide by making beds available to tuberculosis cases where previously there were none. However, little or nothing has been done for the dependents and the after-care of the victim.
Housing schemes and the nutritional surveys are steps in the right direction.

When dealing with this problem it must always be realised that the incidence of tuberculosis is highest where there are such factors (or combination of them) as poverty, overcrowding, bad housing, ignorance or poor knowledge of personal hygiene and malnutrition or semistarvation. In South Africa, the African enjoys the effects of all these facts.

**VENEREAL DISEASES/**

The incidence varies between rural and urban areas. It is less in rural than in urban areas. However, our labour system of separating the men from their wives tends to importation of more venereal diseases into rural areas. The incidence is on the increase but it is not as high as certain sentimentalists, politicians and racialists would have us believe. According to newspaper reports it is highest were the author of the statistics quoted knows the least about the actual conditions. Medical men though aware that the problem is with us are not extravagant in their estimates. To them and for them this is a universal problem. Table M. Venereal Diseases (Union Health Department Report) gives the number of cases treated and attendance during the year ended June 1936 by District surgeons. For syphilis there were 1,445 Europeans and 69,558 Non-Europeans and 940 and 3,207 gonorrhoea among the Europeans and Non-Europeans respectively. Total attendances only are shown as being 39,000 Europeans and 82,572 Non-Europeans.

It would be wrong to conclude that the large number of Non-Europeans treated by district surgeons at Public Institutions indicates a proportionate incidence of the disease. What it does mean, without minimising the true incidence, is that most natives not only cannot afford private treatment and therefore resort to Institutional treatments but also because of their economic status and certain special statutory requirements, they frequently come into contact with district surgeons. Other people who can pay for private treatment choose the latter for social reasons. Likewise it must not be inferred that the high percentage of attendances at treatment by Europeans means a high incidence of the disease. It only means that they recognizing the seriousness of the conditions are more likely to remain under treatment until cured.

There are frequently, newspaper suggestions about the control of these diseases. The pet one is Medical examination of Native servants especially females. What a simple solution!

However, that bring a lot of questions into one's mind such as How long does such procedure guarantee non-infectivity? What is involved in establishing whether one is "V.D." free or not?

11.More/.....
More important are the following questions:- Are venereal diseases a privilege which the gods reserved for African Natives only? If not, is there any wisdom in looking out for certain sources only and leaving others? Can we hope to stamp these diseases by following this method? Has the African in South Africa infected the whole civilised world with venereal disease because venereal diseases are an acute problem in most civilised countries.

To my mind a more sensible programme would be the establishment of diagnostic and treatment centres which should be private, conveniently situated and sympathetically administered. People should be encouraged to follow treatment until cure. Information should be given freely about their danger to Public Health and facilities for treatment until cured. This envisages a corps not merely of venereal experts but of people with the Public Health or preventive point of view.

In the ANNUAL REPORT of the year ended June 30th., 1936 the Secretary of Public Health makes this well considered statement: "Public interest in these diseases continues. Unfortunately, though the attitude is not singular to South Africa, this interest only too often expresses itself in demands and resolutions of an impracticable and ignorant nature. Wholesale compulsory examination and treatment are the usual procedures put forward and further, the government is regularly urged to introduce such class and race discriminatory measures as compulsory medical examination of Non-European female servants. Such views reveal the distorted attitude to venereal diseases of large sections of the public. " p. 50.

I have tired to suggest to you that much of unemployability morbidity, illness and mortality among the African people are largely due to their low income-level which makes them victims of bad housing, overcrowding, malnutrition or starvation, ignorance and general bad sanitary environment. Much of our special native legislation and the general public attitude of the country towards the African have contributed to the present conditions. Most if not all, of these factors are improvable if not preventable.

Intelligence is the most potent factor that can be directed against disease says the California Health Bulletin.

We must educate South Africans for a proper attitude towards our health problem. Public school education is necessary and fundamental for health propaganda. The general public school should be the centre of health propaganda by a well organised medical school inspection for early detection of deformities and handicaps of school children and for inculcation of public health sense, and knowledge of personal hygiene. Well organised child and maternity welfare clinics, special clinics/...
clinics for Venereal diseases and Tuberculosis are good educational agencies in themselves. The African people themselves must be trained for the highest qualifications in medicine and surgery, public health and other allied subjects so that they may play their full part in the campaign against ill-health.

In order to improve the bad state of health among the Africans we must have a State Policy that will do all in its power and spend all reasonable means to remove any preventable conditions that predispose to ill-health of any any community irrespective of race or colour.

We must raise the African's economic status. We must pay him better wages. We must remove legislative land and industrial restrictions against him so that his standard of living may be raised to enable him to be better housed, better fed, better clothed and therefore healthier.

Disease is indivisible, democratic and is colour blind. It is gratifying to note that our medical officers of Health recognise this and act upon it. All would be well for every section if the M.O.Hs had control of the purse-strings of the country.

All health welfare services that have proved their usefulness among other sections must be made available for all sections of the community.

Health is wealth. Health is Happiness. We must do all in our power to bring this wealth and happiness within the reach of our multiracial and multicoloured population as a whole.