A STUDY OF SYPHILIS IN THE BANTU POPULATION OF A SEMI-RURAL AREA IN NATAL, SOUTH AFRICA.

BY

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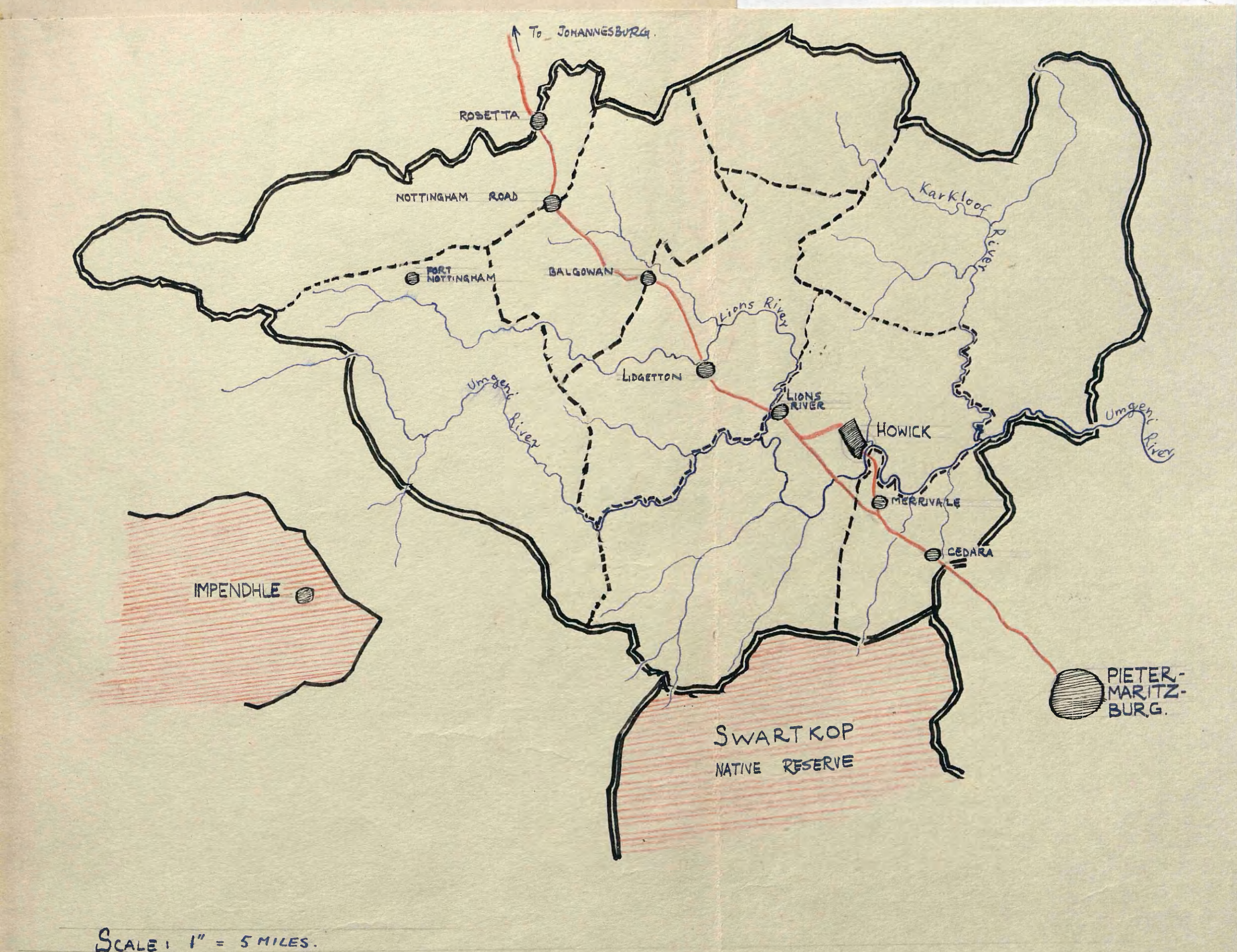
MAP OF THE LIONS RIVER DISTRICT,
NATAL, SOUTH AFRICA.



SCALE: 1" = 5 MILES.

I L L U S T R A T I O N S.

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PHOTOGRAPH 1.

A NATIVE KRAAL IN THE LIONS RIVER DISTRICT.

C H A P T E R 1.

I N T R O D U C T I O N.

Ryle (1948) draws our attention to the science of social pathology. Medicine has tended to ignore this aspect of disease. The trend has been rather to focus all attention and energies on the practice of remedial medicine, with its quest after a specific cause and a specific cure.

It is not my intention to elaborate on modern treatment methods and their relative advantages in the field of syphilis. It is felt that perhaps something of value can be contributed to the social pathology of the disease.

This thesis will embrace a survey of syphilis as it affects the Bantu (African) race in the Lions River District of Natal. Two methods of assessing the incidence will be employed. Firstly, there will be an enumeration of consecutive cases encountered over the period December, 1950 to September, 1951. Secondly, the results of three serological surveys (Wasserman test) in the district will be reviewed.

Syphilis has spread among the Bantu race at an alarming rate. In the Lions River District in the year 1924 - 1925 the District Surgeon saw twelve fresh cases among Africans. During the period under review (not quite ten months), I, as District Surgeon, have found 198 cases. The population figures for 1924 - 1925 are unfortunately not available. Nevertheless, the increase in population falls far short of this increased incidence of syphilis. Table 1 shows the increase of venereal disease in the City of Durban over this period. Durban is seventy-two miles from Howick.

TABLE 1.

INCIDENCE OF VENEREAL DISEASE IN THE CITY OF DURBAN FOR THE YEARS ENDING SEPT.30, 1925, AND SEPT. 30, 1950, IN AFRICANS.

1924-5 (popul. 27,861)	1949-50 (popul. 127,496)						
Fresh cases	Fresh cases						
	City			Imported			Total
Total	M.	F.	Total.	M.	F.	Total.	
48	5849	2046	7895	2542	1348	3890	11785

(With acknowledgement to the M.O.H. of the City of Durban).

The above figures illustrate the formidable increase in venereal infections in Durban amongst the Africans.

The District Surgeoncy in the Lions River District is a part-time appointment. Included among the various duties is the treatment of venereal disease for all sections of the community at Government expense.

The Lions River District covers anarea approximately fifty miles by forty miles, with Howick as its magisterial centre and the headquarters of the District Surgeon. This district lies in the Natal Midlands. Apart from a rubber factory at Howick, there is no other industrial undertaking. This factory employs 220 Europeans, 54 Coloureds, 186 Asiatics, and 1049 Africans. The remainder of the district is primarily cattle - farming and timber,(wattle), country. The farms are mainly European owned, the labour being provided in the main by the Bantu. These latter live in family units, and are given a small portion of land to cultivate. They are usually allowed to run a few cattle.

The census population of the district, as enumerated in May 1951, is as appears in Table 11.

TABLE 11.

EXTRACT FROM CENSUS OF LIONS RIVER DISTRICT, MAY 1951.

URBAN AND RURAL TOWNS.

	European	Asiatic	Coloured	Native		
				M.	F.	Total.
Howick North	348	242	20	224	128	352
Howick South	452	196	3	191	80	271
Howick S. of Umgeni	178	-	-	342	5	347
Howick Native Location	-	-	-	183	163	346
Howick West	-	710	173	592	588	1180
Cedara	22	104	10	52	47	99
Merrivale	218	14	3	151	114	265
Lidgetton West	9	85	22	65	74	139
Lions River	9	204	-	121	118	239
Rosetta	101	62	20	281	158	439
Tweedie	-	57	-	21	27	48
Fort Nottingham	8	-	-	31	35	66
Nottingham Road	266	165	11	268	118	386
Total Urban and Rural towns.	1611	1839	262	2522	1655	4177

RURAL.

	European	Asiatic	Coloured	Native		
				M.	F.	Total.
Balgowan	565	117	10	927	677	1604
Upper Karkloof	17	15	-	454	483	937
Shafton Karkloof	119	27	4	1661	1748	3409
Upper Mooi-Rosetta	97	18	6	805	594	1399
Dargle	101	17	19	899	802	1701
Lidgetton	261	158	12	1489	1435	2924
Howick	139	28	11	913	779	1692
Mvale-Boston Road	140	63	15	1243	1150	2393
Cedara-Hilton	640	144	38	1330	1204	2534
Lot 10	3	-	1	21	20	41
Kamberg	3	-	-	69	83	152
Total Rural	2085	587	116	9811	8955	18766
GRAND TOTAL	3696	2426	378	12333	10610	22943

The Bantu tertiary masculinity (proportion of total males to 100 females) for the rural areas was 109.6, as compared with 152.4 for the urban areas. In 1946, the tertiary masculinity was 105 as compared with 167. It appears that Bantu females are tending to migrate in greater proportions to the urban areas.

According to the Handbook of Race Relations in South Africa (1949), which has based its researches on the 1946 census, the tertiary masculinity of Africans in urban areas throughout South Africa was 218·2, and in rural areas 86·4. For the individual provinces of South Africa, the figures were:

Cape Province..... 81·47

Natal..... 91·56

Transvaal.....129·98

O.F.S.....95·85

The high rate in the Transvaal (where the Unions major industry is concentrated) reflects a high degree of urbanisation. This preponderance of males in urban areas must tend to disintegrate the Bantu family.

In the period which this thesis reviews, I have found one Asiatic, two European, and no coloured cases of syphilis. The problem of this disease is thus clearly confined in this district to the Bantu. This race has only of recent years become victims of the disease. Ahrens (1948) refers to venereal disease having in the 1870s the Zulu name "ukufa kwa belungu", which means "the disease of the European." In fact, the word syphilis has no counterpart in the Zulu language.

Kark (1949) puts the year 1867 with its discovery of diamonds at Kimberley as being virtually the starting point of syphilis in the Bantu of Southern Africa. Previously, in spite of wars and repeated minor conflicts between frontier groups of White and Black, the two races had no common society. In 1877, ten years after its inception, Kimberley had a population of 8,000 Europeans and 10,000 Africans. The latter lived under conditions which inevitably promoted the spread of syphilis. Housing was inadequate, very few if any had wives or families with them, and alcoholism, the Siamese twin of venery (McFarlane-1948)was rife.

In 1884, gold was discovered on the Witwatersrand. Table 111 shows the number and distribution according to area of origin of African men employed in the mining industry of the Transvaal.

TABLE 111.

NO. AND DISTRIBUTION ACCORDING TO AREA OF ORIGIN OF AFRICAN EMPLOYEES IN THE TRANSVAAL MINING INDUSTRY.

Areas from which the men came (expressed as a percentage of the total).

YEAR	NO. employed	Cape Prov.	Natal	O.F.S.	Tvl.	Bas-uto-land	Bech-uana-land	Swaz-iland	East Coast	Tropical
1904-	77,425	12·7	3·49	0·30	6·96	2·91	0·69	0·64	66·23	5·91
1914-	179,837	25·0	5·96	0·48	7·76	7·44	1·87	2·89	47·71	0·90
1924-	191,355	33·0	2.43	0·43	7·59	9·15	1·18	2·19	43·88	0·18
1934-	269,547	42·0	4.62	1·23	8·60	13·0	2·48	2·60	24·67	0·80
1939-	348,048	33·9	4·88	1·49	7.82	15.0	2·72	2·03	26·11	6·01

(Adapted from "The Social Pathology of Syphilis in Africans" S.A.Med. Journal, 1949, 23 79, by Kark).

It is of interest to note that Natal has provided, over the past 35 years, never more than 6% of the total.

Following upon these two basic discoveries came the development of secondary industries - a much slower and more recent process. The rubber factory at Howick is an example of such a recent development. Its biggest customer is the gold mining industry, and it opened in 1920.

Nearly all the African labourers on the gold and diamond mines still come from rural areas, to which they return after spells of work lasting for months or years. They leave their families on farms, or in the Native Reserves. This process must inevitably involve a disruption in their family life with far-reaching social consequences.

In the /.....

In the Lions River District, there are no Native Reserves, whence this process of migration takes place on a large scale. There has of recent years, however, particularly since the 'thirties, with the development of secondary industries (which offer much higher wages), been an increasing tendency for the farm labourer to seek employment in industry. (Handbook of Race Relations in South Africa - 1949.)

African tribal customs, with their accent on the family unit, still prevail to a great extent in the rural areas of this district. There is evidence, however, that the power of these customs is on the wane. The main factors causing this wane are: (a) The introduction of schooling, (b) the adoption of Christianity, (c) a trend to monogamy, and (d) a breaking away from the broad family unit to form single family units. (Kark-personal communication.) Intimately connected with Bantu tribal customs, is the system of "lobolo", whereby to obtain a wife an African has to provide in payment a certain number of cattle. It is a fact that the African feels that to have no children is tantamount to having no life hereafter. (Krige-1950.) He must therefore have a wife. Here lies one of the driving forces behind the migrant labour process, as,on the farms and particularly in the impoverished Native reserves of South Africa, there is often little or no prospect of being able to provide the "lobolo" medium necessary for the purchase of a wife. This and other cultural factors will be dealt with more fully in later sections.

As Kinsey (1948) states, sexual response involves the most intense emotional changes. The propagation of syphilis in a race is intimately connected with the sexual behaviour of that race. The latter is closely associated with religious values, rituals, and customs. With a process of social disruption such as the Bantu race appears to be undergoing, it is inevitable that the sexual behaviour, however

ordered it may have been previously, will adopt freer standards.

It seems evident that remedial medicine per se has had little effect in the control of syphilis in the Bantu. Allied with this state of affairs is the difficulty met in providing adequate treatment. The African in the main views disease in a primitive manner little influenced by the degree of education he has received. The witch doctor's influence is still present. There is little or no stigma attached to the contraction of syphilis. As far as he is concerned the Bantu patient is "gula" (sick). His conception of pathology goes little further. Consequently, it is extremely difficult to convince him that, once external lesions disappear, there is a need for further treatment. In addition, the difficulties of out-patient treatment are magnified by the distances, which must for the most part be travelled on foot.

McFarlane (1948) has reviewed the social pathology of syphilis with special reference to the mal-adjustment of the individual. His survey was conducted in England, on a society which had endured the inroads of a world war, but which by South African standards must be considered an essentially stable society.

In this country, however, we are dealing with a process in which the society itself is pathological. Successful therapy requires the establishment of African urban and rural communities based on a stable family life. In such ordered urbanisation lies the answer to the social pathology of syphilis (Kark -1949).

HISTORICAL SURVEY.

It is essential for the purposes of this thesis to be conversant with the cultural background of the Bantu. As he is being introduced to a new disease, so he is meeting, and being influenced by, a new culture.

A century ago, syphilis would have made scant headway in a people who adhered to a strict sexual code. Likewise, if the Bantu could adopt the Western way of life in entirety, the disease would assume an unimportant role. It is this transition period, when he is straddling two cultures, that provides an admirable soil for the spread of syphilis.

This section will embrace a brief early history of the Bantu, a description of his culture prior to the advent of the European, and the changes which have been wrought in his mode of life as a result of Western influence.

Before the days of Shaka (King of the Zulus from 1816-1840) the Zulus were an insignificant clan of many such clans, who had migrated southwards from Central Africa (BRYANT 1949). Bryant supposes that about 900 A.D. the Southern Bantu had become separated into 3 branches in Central Africa. They were the Nguni, the Venda-Karanga and the Thonga. These gradually migrated south-wards. The Nguni, in their travels, met the Bushmen, and adopted from them the clicks which characterise the Nguni languages. The name Bantu includes all these clans of South-East Africa who have a common language origin. The three branches mentioned split up, leaving sections behind in their travels, the remainder intermingling to form three further groups. These were the Ntungwa-Nguni, the Embo-Nguni and the Thonga-Nguni, who all entered Natal at about the same time in the 16th Century.

The Zulus/.....

The Zulus get their name from one Zulu, the son of Malandela. It is from Malandela that the Zulus are descended. They were a small clan of the Ntungwa-Nguni, and were thus closely related to their neighbours. They nevertheless had by chance a profound influence in unifying the various tribes of Natal into one people, so that today most of the Nguni clans of Natal call themselves Zulus.

Shaka, an illegitimate son of the Zulu King, was largely responsible for this process of unification. By virtue of his unpopularity he had to flee his home. He sought refuge with Dingiswayo, head of the Mthetwa tribe, close neighbours of the Zulus. Dingiswayo had, on a small scale, been busy subjugating neighbouring tribes by force. Shaka showed such prowess as a warrior that he gained Dingiswayo's favour and with the death of the Zulu king in 1816, Shaka, aided by Dingiswayo, took the Zulu throne by force. He was a cruel and ruthless man. He re-organised his army and abandoned the tamer methods of fighting then in vogue. He pursued the enemy to their kraal, killed their chief and as many able-bodied men as possible and returned with their cattle and women as booty. By 1820 he had completely subjugated the entire territory of what is today known as Natal. He reigned supreme. It meant nothing for a man to be put to death for possessing a face ugly enough to offend the king, and life became precarious in a brutal atmosphere.

Apart from this effect of unification, his influence on Bantu life and customs was profound. A group of pastoral clans had in four years been transformed into a powerful military weapon. The entire social structure was re-orientated and focussed upon military matters, and the young men were trained in age sets for military service.

Shaka/.....

Shaka was succeeded by Dingane, then umPande and then Cetshwayo. Cetshwayo was the last of the independent Zulu kings. He was defeated by the British at Ulundi in 1879.

In South Africa today, no Bantu can own land except in the areas known as reserves. The land which was in his possession was either taken over by European farmers or regarded as Crown lands and called reserves. In these reserves the Bantu were allowed to continue the form of land tenure they were accustomed to prior to European conquest. The largest Bantu occupied land is the Transkei territories. In Natal, certain reserves were set aside following the British annexation in 1843. (In addition, Zululand, annexed in 1879 still remains largely in African hands.) The Lions River district has two such reserves on its boundaries. They are the Swartkop and Impendhle native reserves. Since Union (1910) the total area set aside as reserves has risen from 7.3% to 9.6% in February 1945 (HANDBOOK OF RACE RELATIONS 1949).

THE RURAL BANTU.

KRIGE (1950) deals at length with the social organisation of the Zulus as it exists among those as yet uninfluenced by Western standards. Her descriptions are applicable in the main to the rural Bantu of this district, among whom the bulk are Zulus. Recent importations of a few foreign tribes such as Basutos (from Basutoland), Xosas (from the Cape) and Nyasas (from East Africa) have occurred.

In the kraals the old customs are still maintained to a great extent based on kinship which exerts a powerful influence on the Zulu. The family unit is held together by strong ties within a kinship system which provides no small measure of social security for its members. In fact, it acts

as a /.....

as a kind of community chest. It is indeed remarkable that a preliterate society such as that of the Zulus should have such a clear cut set of rules as those embracing kinship.

The "baba" or father is the great light of the family and commands the utmost respect. The "mama" or mother is the lesser light. The children are on a par socially, differentiation being based on age and sex, the males being given priority over the females.

If a wife is barren, a sister is sent to provide children for the husband, but she assumes the rank of a second wife. Her eldest son, nevertheless, becomes the heir. If a man dies, his younger brother inherits his wife or wives.

The father's brothers and sisters are all looked upon as fathers, receiving the same degree of respect as the father. Here again we find a differentiation as to age and sex and a father's elder brother is paid more respect than a younger. A father's sister is accorded less respect than a father's brother but more than a mother's brother.

The same strict parallel is drawn to the mother's relatives. The female side in the Zulu family generally assumes a more passive, supplicant role. As an example - the mother will make representations to the father on behalf of a son (a man does not talk in his father's presence unless addressed.)

Relatives - in - law are also evaluated socially. There is, thus, a strictly patrilineal structure to Zulu society and this is carried to the grandparent relationship even more forcibly - the father's father commands the greatest respect of all.

As a result of this complex and extensive ramification, a large number of relatives, based on the father-mother relationship, are drawn together.

In addition/.....

In addition, there is the system of the sib (clan). This includes relatives on one side of the family only. The sib is called the "isibongo" and is patrilineal. It is the surname and can be likened to the Highland clan system of Scotland.

Finally, in Zulu society, there are the age-sets. This system arose from the military era of the Zulus. It embraces both boys and girls and has as its object a training in discipline for circumscribed age sets of boys and girls. This age organisation is gradually falling away with the tendency of young boys to leave home early to enter European employment.

Each family unit lives in a separate village. With the disintegration of the old tribal life, the village is tending to shrink in size and may now include only one man with his wives and children. Although there may be several wives, each is independent. She has her own separate cattle and and separate lands for cultivation. The women of the village attend to the necessary domestic duties as well as work in the fields. The younger girls fetch water and collect firewood. The young boys act as herd boys while the little girls help their mothers tend the children. Compared with the above the men are relatively idle. They appear to view life as soldiers on permanent leave. They devote some of their day perhaps to attending a case, or drinking kaffir beer. I recollect, in my youth, our kitchen servant telling me it was beneath his dignity to work as a house-servant - this was "women's work". One can detect a new air of pride among the males now that industry has opened its doors to the Zulu and he can again do "man's work."

The social order of the Zulus postulates completely opposite spheres of activity for men and women, down to the most minute detail of their daily life. They must even sit differently and wash differently.

The concepts/.....

The concepts of ancestry play a vital role in the village and, despite Christianity, still govern major kraal policy. For example, moving to a new village requires that a series of taboos be adhered to for fear of offending the ancestors. It is for this reason that I meet such obstruction when I am called upon to perform a post mortem examination at a kraal. The Zulu mind regards such an examination as a trespass into the province of the ancestors. The police often acknowledge to me that investigation of a death by violence (particularly lightening) is in most cases met by a singularly unco-operative attitude.

No marriage is complete till a child is born. Childlessness to a woman is a major disaster.

Every child is supposed to be tainted at birth with "isigwemba" - a constitutional defect to which several ailments are attributed, such as abnormal sexual irritability in adults (KRIGE 1950). One remedy is to twirl the stem of the castor oil plant round in the rectum of the child till blood is drawn. Another, the one most commonly practiced in these parts, is to administer daily enemata of witch-doctor concoctions to the unfortunate child. It took me three years to uncover this procedure, which on interrogation I find is the common practice in almost every rural infant brought to me. It serves to illustrate a concept of pathology certainly different from ours and explains the indifferent attitude towards continuation of treatment once external lesions of syphilis have disappeared.

Zulu babies are weaned late - usually at the age of about 18 months or two years. This is a saving grace, as the customary change over to solids is to crushed raw mealies ("umcumbi") and may be a major cause of the high death rate of infants from gastro enteritis in this age group.

It is / .....

It is not permissible for the mother to fall pregnant till the child is weaned, whereupon sexual intercourse may be practised again.

It is of interest to compare the series of initiation ceremonies which punctuate the Zulu's development into adulthood, with other primitive races. Benedict (1935) has dealt with the Pueblos of New Mexico, the Dobu of New Guinea and the Indians of the North-West America. Margaret Mead (1950) deals with the Samoans.

Among the Zulus there are the ear-piercing ("Qhumbuza"), and the puberty ceremonies and the public recognition of a girl's marriageable state (the "ukwomela").

The ear-piercing ceremony (done on every child before reaching puberty) is today regarded as the mark of the heathen. I have been approached by aspiring Christians on at least four occasions to close these holes by doing a small plastic procedure under local anaesthesia.

The puberty ceremony in the boy is signalled by his first nocturnal emission. He initiates proceedings by stealthily driving his father's cattle to the river before sunrise and having a bathe. He is symbolised as one of the beasts and must be driven back with the cattle to a ceremony which may last several days. He is thereafter acclaimed a man.

In the girl, the ceremony is initiated by her first menstruation, and follows similar lines, the accent being placed on seclusion (menstruation is regarded as a thing unclean.)

The "ukwomela" is a ceremony on similar lines. Like the above ceremonies, a beast or goat is slaughtered as a token.

A closer study of the period of the puberty ceremony onwards is indicated for the purposes of this thesis. It demarcates the period of the excursion into adult sex consciousness of the young Zulus.

The Western/.....

The Western concept of sex is foreign to the Zulu. There is no reticence on sex matters before children and indeed children indulge in playful sexual intercourse.

The elder girls ("amaqhikiza") assume the responsibility for the behaviour of the newly initiated girl. Once initiated she is paid attention by the young men. She is given a probation period during which time she may not address a young man even under duress. The "amaqhikiza" then waive this restriction, but she may not choose a sweetheart for a further period of from six months to a year. To accept ("qoma") a lover is a serious matter in Zulu society. It is the Western equivalent of an engagement, with this exception, that one cannot "qoma" twice.

A young man who has been accepted for at least three months may approach the "amaqhikiza" to have external sexual intercourse with his betrothed. This is called "Hlobonga", or more commonly in these parts "soma". Permission is rarely refused. Parents invariably acquiesce to this, provided the control by the "amaqhikiza" is recognised as adequate.

A custom which appears to have died out nowadays, is for Zulu mothers to conduct a routine inspection of their daughter's gemitalia in case of defloration.

It is considered a disgrace for an unmarried girl to have a child at her father's kraal. A discovery of pregnancy is followed by hurried efforts to marry her off to someone. At such a wedding, however, the "amaqhikiza" would refuse the meat, it being considered unclean.

Premarital laxoness is strictly forbidden. The worst insult a girl can receive is to be termed "isigalagala", which implies that she has had excessive sexual intercourse. The insult is taken as an aspersion on the entire age-group

and is /.....

and is dealt with by that group collectively. Formerly she would go to the slanderer's kraal and submit to an examination by the mothers of that kraal. If innocent she was given free licence to destroy any possession of value of the slanderer. Thereupon the girls of her age group would seize a beast, slaughter it, and pour the stomach contents over themselves to cleanse away the aspersion. Nowadays, according to the Natal Code, such redress is not permissible and a civil action is necessary. If she wins her case she is entitled to a head of cattle.

During my practice over the past five years I have dealt with at least six such cases. In none so far has an intact hymen been encountered.

Love-making is an important part of the life of a young man once he has reached puberty. He is very interested in love charms which are either self administered or given to the girl in question. The bead work he wears and the colours chosen have an implication of love.

He may marry at any time after puberty. In former years he had to wait as long as ten years, most of which was spent in military service.

Marriage among Zulus has two implications. The couple concerned are firstly involved in the translation into a higher category - from unmarried to married. In addition great play is made of the fact that the girl has to loosen her family ties and enter in a humble fashion those of her husband's. As a result the ceremony involves certain seclusion rites and a special ceremony is necessary before she may eat the meat or drink the milk of her husband's kraal. All this and many other taboos she must follow in recognition of her husband's sib and the feelings of his ancestors.

The second /.....

The second implication of marriage is a conciliation in a gradual manner of the two sibs. Here we find the explanation of the "lobolo" custom. A marriage is no moment of rejoicing to the girl's family. She is a loss to them and a gain to the boy's family. Consequently the latter must restore the equilibrium by giving something of great value. Cattle have always been looked on as a Zulu's most valued possession and hence the motive of "lobolo". In former days four or five head of cattle was the maximum paid. Since the codification of the Zulu law "lobolo" values have been more or less fixed. The price payable for the average Zulu girl is fixed roundabout ten head of cattle. Chief's daughters require more. Nowadays payment in cash is acceptable. My dispensary boy, who is contemplating marriage, has been called on to pay £45.

The antagonism existent between the two sibs is by no means abated at the onset of the wedding ceremony. It is the rule for opposite camps to hurl jibes at each other, and in fact to be most forthright in their insults. As beer drinking is a big attraction at a wedding it is not unusual for serious fighting to break out. At the conclusion of the ceremony however, there is an end to such antagonism and gifts are exchanged.

Rosenthal & Kerchner (1944) found in New York for the years 1940 -1943 that the largest number of cases of venereal disease occurred in the 20 to 24 age group, and according to Koch and Wuthur (1944) sexual promiscuity is the most vital factor in the spread of venereal disease. Under such a strict tribal custom as holds in the kraals the main factor in the spread of venereal disease is absent, since the seduction and defloration of an unmarried girl would produce a severe reaction from the family, with serious consequences to the girl and seducer. Such reaction is much less or absent today in the urban areas where the society is neither strict nor tribal, and the number urbanised is increasing.

THE URBAN BANTU.

Table 1V shows the increase of the urban native population in the Union of South Africa.

TABLE 1V.

THE URBAN NATIVE POPULATION IN THE UNION OF SOUTH AFRICA, DURING THE PERIOD 1911 - 1946.

Date.	Men	Women	Total
1911	410,161	97,981	508,142
1921	439,707	147,293	587,000
1936	784,769	356,874	1,141,643
1946	1,152,022	642,190	1,794,212

(HANDBOOK OF RACE RELATIONS 1949)

No estimate is available for the proportion permanently urbanised. There is no doubt, however, that there is an increasing trend towards permanency. This is evidenced by the increasing number of urban marriages and the increase in the number of women in urban areas.

In viewing the position of the urban Bantu a review of the historical background is necessary. The Native (urban) Areas Act of 1923 was the first legislative move towards the segregation of the various races of the Union of South Africa in urban areas. Prior to this the policy was one of laisser-faire. Numerous amendments have followed this act, all of them having the basic motive of safeguarding the labour supply of the European farming community (HANDBOOK OF RACE RELATIONS 1949). Despite this legislation, however, the townward flow of the Bantu has continued unabated. World War 11 was responsible for a great increase in the economic development of this country and this townward flow was greatly accelerated. It is becoming increasingly evident that a re-orientation of the problem of the urban Bantu is necessary.

The provisions of the Act of 1923 and its amendments delegate responsibility for the control and housing of such urbanised Bantu to local authorities. In fact the financial burden has had to be shouldered almost entirely by local authorities.

The net result/....

The net result is that provision of adequate housing has lagged painfully behind. As a result, slum belts have grown mushroom-like round most of the urban areas. In 1943 it was estimated that the Union required 125,000 native houses. In 1947 the Native Administration Department estimated that 154,000 houses were required for natives as well as accommodation for 106,900 single natives. (HANDBOOK OF RACE RELATIONS 1949).

As regards the economic and social conditions of such urban Bantu, various commissions have submitted reports. The Smit Report (Union Government No.8, 1940) was "impressed above all by the poverty of the Native community. This poverty is a factor, the ill effects of which permeate the natives' entire social structure". The Department of Social Science of Cape Town University in 1939 did a random survey of 1926 families. It revealed that 6% of European families, 52% of Coloured, 48% of Natives and 20% of Asiatic, lived below the Poverty Datum Line. In 1944, a commission enquiring into the operation of bus services for Non-Europeans in the Witwatersrand, Pretoria and Vereeniging areas concluded that "in all areas of the commission's enquiry, the vast bulk of African workers are below the Poverty Datum Line" (HANDBOOK OF RACE RELATIONS 1949).

In the Lions River district with which this thesis is particularly concerned, there is the somewhat exclusive position of there being only one major industry - the South African Rubber Manufacturing Company. This falls under the category of a private manufacturing industry. It is of a type in which the African can achieve greater scope and he can perform the work, for instance, of a machine operative.

The standard of living is higher by virtue of higher wages paid than the Gold, Coal and Diamond Mines, and much higher than farm labour wages.

Table V./.....

Table V. shows the average cash wages paid in the Gold, Coal and Diamond Mines in 1944.

TABLE V.

THE AVERAGE CASH WAGES PAID IN THE GOLD, COAL, AND DIAMOND MINES IN 1944.
(From the HANDBOOK OF RACE RELATIONS, 1949)

		Yearly Wage.
AFRICANS		
GOLD	Witwatersrand & Extensions	£42. 13. 0.
	Other Areas	£33. 2. 0.
COAL	Witwatersrand	£41. 5. 0.
	Natal	£38. 1. 0.
DIAMONDS	Cape Province	£73. 19. 0.
EUROPEANS		
GOLD	Witwatersrand & Extension Underground	£423. 16. 0.
	Witwatersrand & Extension Surface	£299. 0. 0.
COAL	Transvaal	£361. 8. 0.
	Natal (Miners)	£348. 8. 0.
DIAMONDS	Cape Province	£406. 18. 0.

Table VI. shows the average cash wages paid in the South African Rubber Manufacturing Company of Howick.

TABLE VI.

THE AVERAGE CASH WAGES PAID IN THE SOUTH AFRICAN RUBBER MANUFACTURING COMPANY, LIMITED, IN HOWICK.

	Number Employed	Yearly Wage.
1945		
AFRICANS	546	£ 86. 15. 0.
EUROPEANS	131	£401. 19. 0.
1950		
AFRICANS	872	£120. 17. 0.
EUROPEANS	143	£549. 5. 0.

TABLE VII/....

Table V11 shows the farm wages per annum for a few areas of the Union (From the Division of Economics and Markets of the Department of Agriculture.)

TABLE V11.

THE FARM WAGES PAID IN A FEW AREAS OF THE UNION OF SOUTH AFRICA.

TYPE OF FARMING	AREA	YEAR	CASH
Fresh Milk	Cape Town(Peri-Urban)	1943-4	£79.37
Fresh Milk	Cape - Western Prov.	1943-4	£47.19
Fresh Milk	Witwatersrand	1943-4	£29. 3
Fresh Milk	Outer Rand	1943-4	£23.79
Cattle & Cream	Cape - North West	1944-5	£11.35
Dairy	East Griqualand	1944-5	£10.91
Cheese & Milk	Oudtshoorn & Cookhouse	1943-4	£12.55
Cream	Eastern Province	1943-4	£ 7.19
Poultry	Cape Western Province	1944-5	£63.20
Poultry	Witwatersrand	1944-5	£41.72
Poultry	South Coast Natal	1944-5	£21.88
Potatoes	Natal	1942-3	£13.74
Irrigation Farming Vegetables	Bon Accord.	1944-5	£15.21.

There is in addition to cash, a hypothetical estimate for Rations, Grazing, Land and other. (Extract from HANDBOOK OF RACE RELATIONS - 1949).

It is clear that cash earnings of most farm labourers are less than on the mines or in the manufacturing industry and must be a strong factor in the migration tendency. The structure of wages in South Africa shows a wide gap between the wages of skilled labour (largely European) and unskilled labour (Mostly non-European). VAN DER HORST (HANDBOOK OF RACE RELATIONS 1949) gives a reason for this wide gap and strict delineation of the occupational distribution of the population. In the late 19th and early 20th centuries, trade unions were organised by European artisans, while African labour remained unorganised. This was in particular applicable to the Rand Gold Mines. The European trade union influence was later backed by legislation. As a result, skilled work is today largely the preserve of the European.

In 1938/.....

In 1938 unskilled money rates in South Africa were a quarter to half of those in the United States, Great Britain and the other Dominions.

Table V111 shows the occupational distribution of the African population in 1936. It is applicable to all Africans over the age of ten years in the Union.

TABLE V111.

THE OCCUPATIONAL DISTRIBUTION OF THE AFRICAN POPULATION IN THE UNION OF SOUTH AFRICA IN 1936

OCCUPATION	MALE %	FEMALE %
Agriculture and Forestry	62.4	86.5
Mining	17.1	-
Manufacturing	9.1	.2
Transport - Communication	3.9	-
Commerce and Finance	.3	-
Public Administration, Defence Professions, Sport, Entertainment	.8	.2
Personal Service	4.9	12.7
Other	1.5	.4
	100.0	100.0
Percentage of Population of Age Group	96.0	82.4

(From HANDBOOK OF RACE RELATIONS - 1949)

As the table shows, the bulk of African labour is engaged in farming. This has tended to lose its attraction, particularly for the younger generation - wages are lower and terms of service are less attractive. As the value of land has increased, the farmer has tended to limit grazing and cultivation rights increasingly. Simultaneously, an urban existence has tended to become more attractive to the African. The Western way provides more variety in life. He prefers the European dress, and has perhaps unconsciously adopted the Western motive of life which is acquisitive.

The same factors are applicable to the African population living in the reserves.

In 1913, 78% of the Union population were Africans. They held tenure of 7.3% of the Union's area. This disparity

together/.....

together with primitive agricultural methods and overstocking led to soil erosion and a resultant decline in productivity of the reserves.

In 1936, an estimate gave the density of the population of the reserves as 82/square mile compared with 21 for the Union as a whole. The estimated maize yield in 1950 was two bags per acre, compared with four to six bags for European farms. Reserve land is overstocked. In 1918, the cattle population was 1.6 million. It increased to 3.8 million in 1930 and has evened out at approximately that level. Today only the most hardy animals can survive such barren country. They are poor milk producers and have a low market value for slaughter purposes. (The incidence of cysticercosis is high among reserve cattle because of primitive methods of human sanitation.)

There has been a tendency for the Bantu pepple of the reserves to abandon their traditional diet of "amasi" in preference for the less nourishing diet of mealies. This follows, undoubtedly, the inadequate milk production. Consequently there has been a marked increase in malnutrition.

All these, and many other factors, weigh in swelling the roads to the towns with migrant Bantu who tend not to return.

In analysing the hotch-potch of Bantu society at present existent in urban areas, there are two striking features noticeable. Firstly there is the eager assimilation of Western material culture - European style of clothing, religion, education, recreations and even furniture. Secondly there is the substitution of the strongly knit tenets of tribal kinship by the smaller family unit divorced in interests from its neighbours. The urban Bantu is no longer one of a tribe - the motive of kinship is tending to fall away. Selfish interests

take the /.....

take the place of communal interests. With such a deviation, it is inevitable that roots will be as yet lightly anchored. Thus in 1934/35 of all births in three Pretoria native locations, 59% were illegitimate. Related to this is the high masculinity rate in urban areas with a diminution of the moral hold that family life has upon a community.

One other aspect of the urban Bantu which bears consideration is alcoholism. Under the laws of this country Africans are debarred from consuming, or being in possession of, any intoxicating liquor other than Kaffir beer. This latter, the traditional drink of the African, is made from Kaffir corn and mealie meal and has an alcoholic content of from 3% to 5%. It is consumed on farms, in the reserves, and is obtainable at municipal beer halls in urban areas.

There is, however a large traffic in illicit liquor, particularly in the slum belts of urban and periurban communities. The usual ingredients of this liquor (called "shimiyane") are cheap wine, brandy and sherry, cane spirit (an alcoholic distillation product of sugar, and about 65%proof) plus adjuvants (such as carbide). It is a very potent drink and is extremely toxic. Only of recent years has illicit brewing begun in the reserves. The special brew made there is "gaveen" a liquor of similar constitution.

Table 1X shows the convictions under the Liquor Laws of this country for the year 1944 (Extracted from the HANDBOOK OF RACE RELATIONS - 1949)

Table 1X/.....

TABLE IX.

THE CONVICTIONS UNDER THE LIQUOR LAWS OF THE UNION OF SOUTH AFRICA FOR THE YEAR 1944.

Offence	European		African		Asiatic		Coloured		Total.	Percentage of Total Convictions
	M	F	M.	F	M	F	M	F		
Possession of Native Liquor (Illicit)	31	13	42629	60855	88	19	1890	1472	106988	14.43
Possession of Other Liquor	-	-	5591	3085	56	21	470	190	9413	1.27
Drunkenness.	5724	455	19463	2221	1086	60	18930	2803	50742	6.84

It will be seen that, as far as the African is concerned, convictions for possession were more than twice the convictions for drunkenness in males, and nearly thirty times in the case of females. This is because police efforts are directed at restraining the source rather than the consumption of illicit liquor besides their having a more difficult case to prove in the case of drunkenness. Thus the figures for drunkenness can hardly reflect the true state of affairs.

There are no statistics to differentiate between urban and rural areas. The vast majority of convictions, however, emanate from urban areas.

The degree of alcoholism in a community has always been a reflection on the ability, or otherwise, of that community to adjust itself to environmental factors. The extremely high incidence of alcoholism in African urban communities serves to illustrate this lack of adjustment.

Table X gives a summary of Criminal Statistics in the Union of South Africa for the year 1950.

Table X/.....

TABLE X.

SUMMARY OF CRIMINAL STATISTICS IN THE UNION OF SOUTH AFRICA FOR THE YEAR 1950.

	Cases Reported	Persons Prosecuted	Convictions	
			Europeans	Non-Europeans.
Offences against the State and the Public Administration	85,281	93,599	17,315	60,167
Offences relating to the Welfare or Public Health of the Community.	829,498	734,418	103,394	575,233
Indecent, Immoral, Sexual and Related Offences	9,296	8,139	893	4,423
Offences against the Person or Reputation	127,910	104,524	5,913	71,093
Offences relating to Property	301,429	179,687	6,218	142,025
Offences relating to Agriculture Mining, Manufacture, Trade, Finance, Insurance, Transport, Profession, Labour and Employment.	103,942	84,287	14,113	60,014
All other offences not listed above	27	2	-	2
TOTALS.....1,457,383		1,204,656	147,846	912,957

(Extracted from The NONGQAI, the official News Magazine of the South African Forces, Vol.XLII, August 1951.)

WITTKOWER(1948) in viewing the psychological aspects of venereal disease condluded that promiscuity of the types leading to venereal infections was mainly the result of attempts to relieve psychological stress. These attempts, he said could be precipitated by lack of family relations, and lack of habitual physical comforts and other gratifications.

CHAPTER 111.

CLINICAL SURVEY.

201 cases are presented for analysis. They were collected consecutively over the period December 1950 - September 1951.

There were 25 cases of primary, 132 secondary, 23 cases of late, and 18 of congenital syphilis. In addition three cases of chancroid were included in the series.

During this period, 12 cases of gonorrhoea were encountered. The reason for the relatively low incidence, as compared with syphilis, is obscure.

Criteria for diagnosis used in each case were a full clinical examination, dark-ground microscopy of external lesions where present, and serological examination (Wasserman Test) of all cases.

While the barrier between primary and secondary syphilis is in most cases clear cut, that between secondary and late is far from obvious. In formulating the above classification, I have adopted the broad classification of Moore (1951). He differentiates the disease into the acute infection (primary and secondary, manifested within the first two to four years of initial infection), and late syphilis (of more than four years duration). Late syphilis in this series has been classified as any case of more than four years duration, from the time of the initial infection. This differentiation is of value in a socio-economic survey. The former (the acute infection), can be viewed as the epidemiological problem. The latter (with minimal risk of transmission) assumes importance more in the public health field, on a par with such non-infectious diseases as hypertension and malignancy.

TABLE XI./....

TABLE XI.

NUMBERS OF CASES ACCORDING TO SEX.

DIAGNOSIS	NO. OF CASES			PERCENTAGE OF TOTAL		
	M.	F.	TOTAL	M.	F.	TOTAL
PRIMARY SYPHILIS	19	6	25	9.5	2.9	12.4
SECONDARY SYPHILIS	51	81	132	25.4	40.3	65.7
LATE SYPHILIS	9	14	23	4.5	7.0	11.5
CONGENITAL SYPHILIS	6	12	18	3.0	6.0	9.0
CHANCROID	3	-	3	1.4	-	1.4
TOTAL	89	112	201	44.2	55.8	100.0

The clinical material will be analysed in detail, and special features will be stressed.

The possible presence of selection in the collection of this sample of 201 cases must be considered (Bradford Hill - 1946). Its presence is unlikely, as the cases were collected consecutively.

The syphilitic patient in this district has other channels open to him besides reporting to me.

(a) He may report to the clinics run at Nottingham Road (Health Clinic, Government sponsored) or Howick West (two miles from Howick, ante-natal only - Province sponsored), or to the Pietermaritzburg Non-European Infectious Diseases Hospital, all of which are run on the same basis as my own clinic - viz:- free treatment is offered.

(b) He may report to a private practitioner, of whom there are three besides myself. Occasional cases are referred by these practitioners to me, as the African is usually not able to afford

any/.....

any prolonged expensive treatment.

(c) He may go untreated (or visit a witch-doctor, which amounts to the same thing). 6 Cases of the 201 adopted this course prior to reporting to me.

Factors which militate against selection in this sample are :

(1) The cases mainly presented of their own free will. A small proportion were traced via relatives or sleeping-partners, by word of mouth usually, as few Africans in this district possess a postal address. In their own words, they live "in those mountains," or "on that farm," which farm may be of 4000 acres. As a result, without conducting a laborious search, case-finding in the majority of cases is impossible, except by word of mouth.

(2) There is no stigma to the contraction of venereal disease as far as the Africans are concerned. They are in the main, persons of little or no education, and in fact fully half of my African private patients (non-venereal) clamour for injections. Probably the dramatic effects of arsenic on the external syphilitic lesion have been broadcast over the years, so that an injection has now come to be regarded as a panacea of therapy. There is no particular motive preventing the African syphilitic patient from reporting to the District Surgeon for treatment. Apart from other considerations, they attend along with my private patients, and no differentiation is made by me or my staff or by the patients themselves on account of their having venereal disease.

(3) This sample of 201 patients is essentially homogeneous. A small percentage of the Bantu population of the district is of the professional class, and these are mainly teachers. The remainder are all of the working class.

Viewing all these factors, it seems reasonable to assume that selection in this series is minimal.

AGE INCIDENCE.

Before presenting the details of age incidence, it must be pointed out that 83 out of 201 did not know their own ages . The ages of these had to be worked out by such landmarks on the calendar as the influenza pandemic (locally in 1919), the locust invasion of 1925, the earth tremor of 1929, and World War 11, in relation usually to birth or puberty (which for equity I took at 13 years). The ages of these 83 are thus subject to error, but usually this error will be within two or three years on either side, and with 83 cases the variations should cancel out .

TABLE X11.

THE AGE DISTRIBUTION OF PRIMARY AND SECONDARY SYPHILIS FOUND IN THIS SERIES.

AGE IN YEARS	NO.OF CASES		PERCENTAGE OF TOTAL	
	M.	F.	M.	F.
TOTAL	72	85	100	100
Under 15	-	3	-	3.5
15 - 19	4	20	5.6	23.5
20 - 24	23	29	32.0	34.1
25 - 29	15	10	20.8	11.8
30 - 34	16	13	22.2	15.3
35 - 39	7	9	9.7	10.6
40 - 45	7	1	9.7	1.2
MEDIAN AGE	26.7	23.5		

These figures are of interest when compared with those of Rosenthal and Kerchner (1944). They found, in an analysis of reported cases of primary and secondary syphilis in New York City for the period 1940 - 1943 that the median age for males varied between 29.7 and 27.3., and for females

between/.....

between 25.1 and 23.8 years. In addition, in 1940 the male : female ratio was 1.99 : 1, and in 1943 it was 1.84 : 1.

TABLE XIII.

EXTRACT FROM AGE DISTRIBUTION STATISTICS IN NEW YORK CITY FOR THE YEARS 1940 - 1943. (Rosenthal & Kerchner 1944)

	MALE				FEMALE			
	1940	1941	1942	1943	1940	1941	1942	1943
TOTAL CASES	2066	2040	2338	2757	1041	917	1076	1495
MEDIAN AGE	29.7	29.6	28.9	27.3	25.1	25.3	24.8	23.8

Points of interest in the comparison of Table XII with the findings of Rosenthal and Kerchner are :-

(1) In the age group 15 - 19, the incidence among males (5.6 %) resembled the New York figures for the years 1940 - 1942 (6.0 %) - 7.8 %).

(2) In the same age group, in none of the years reviewed by Rosenthal and Kerchner did the incidence among females attain the same degree (23.5% in this series, as against 13.6 % - 14.9 %). A possible explanation may be the early excursion into sex and marriage of a more primitive culture with less economic inhibitory factors.

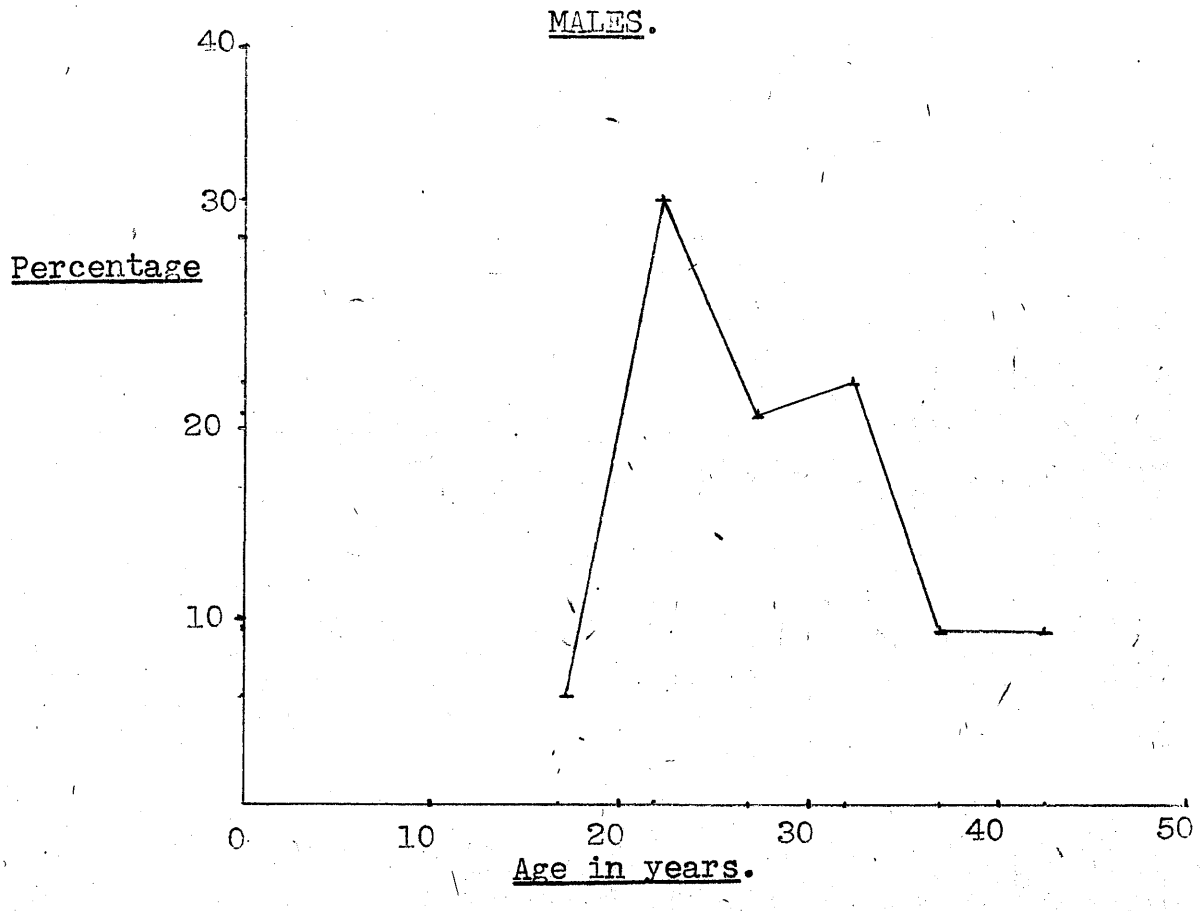
(3) In the age group 20 - 24, there is a noticeable similarity between this series and the 1943 series, both for males and females (32.2% and 34.1 %, as against 29.6 % & 37.3% respectively).

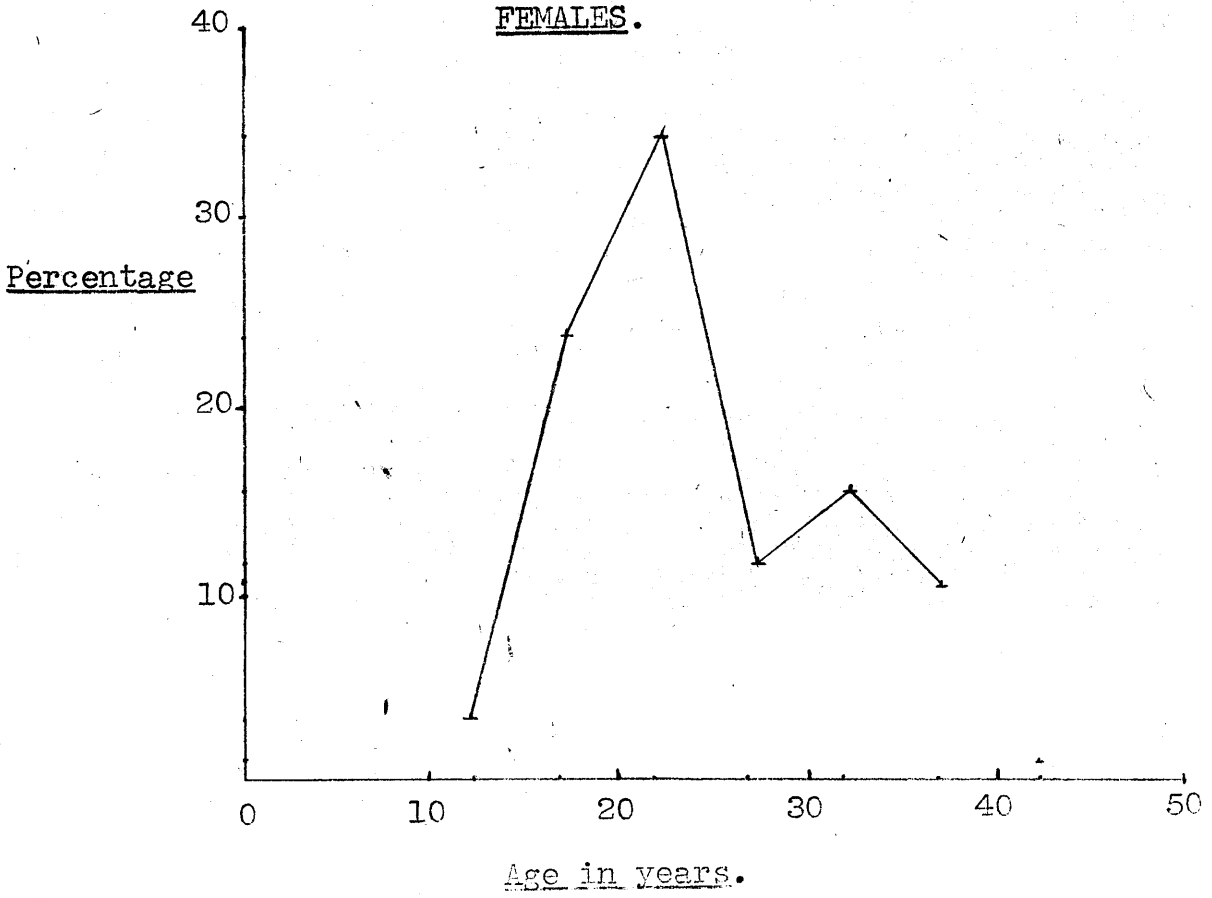
(4) There is an overall greater incidence in the 30 - 34 age group in this series in males (22.2%), as compared with the New York figures (13.6 % - 17.7 %). This may be explained by the fact that the African male, whose economy is based on narrow limits, must continue his absence from home much later on in his life than is probably necessary for the American.

GRAPH/.....

GRAPH 1.

AGE INCIDENCE OF PRIMARY AND SECONDARY SYPHILIS.





DETAILED ANALYSIS OF CLINICAL MATERIAL.

O'Malley (1950) has devised a code system whereby the various clinical syndromes of syphilis can be coded in a series of cases. This system has been adopted in this analysis as being able to reflect more comprehensively the various syndromes encountered.

PRIMARY SYPHILIS

This has been grouped as follows:-

A (& subdivisions)

Dark-ground positive, Wasserman negative.

A: Primary syphilis with solitary genital sore.

Aa: Extra-genital primary with location specified.

Ab: Recurrence.

Ac: Re-infection (with previously cured infection established)

Ad: Multiple primary chancres.

Ae: Primary syphilis in association with pregnancy.

AB (& subdivisions)

Dark-ground positive, Wasserman positive.

AB: Primary syphilis with solitary genital sore.

ABa: Extragenital.

ABb: Recurrence.

ABc: Re-infection.

ABd: Multiple primary chancres.

ABe: In association with pregnancy.

TABLE XLV/.....

TABLE XIV.

THE INCIDENCE OF EACH SYNDROME IN RELATION TO TOTAL CASES OF PRIMARY SYPHILIS (25).

DIAGNOSIS	NUMBER OF CASES					PERCENTAGE OF TOTAL		
	W. R. NEGATIVE		W. R. POSITIVE					
	M.	F.	M.	F.	TOTAL	M.	F.	TOTAL.
Solitary Genital Sore	4	2	4	2	12	32.0	16.0	48.0
Multiple Genital Sore	5	-	4	1	10	36.0	4.0	40.0
Extra-Genital	-	-	-	1	1	-	4.0	4.0
Recurrence	-	-	1	-	1	4.0	-	4.0
Re-infection	1	-	2	-	3	12.0	-	12.0
In assocn. with pregnancy.	-	1	-	-	1	-	4.0	4.0
Total without re-duplicating	9	2	10	4	25	76.0	24.0	100.0

One re-infection (male) was multiple.

One recurrence (male) was multiple.

One in association with pregnancy was solitary.

TABLE XV /.....

TABLE XV.

THE INCIDENCE OF EACH SYNDROME TO INCLUDE THOSE CASES OF SECONDARY SYPHILIS WHERE PRIMARY LESIONS ARE STILL PRESENT - IN RELATION TO TOTAL NUMBER OF CASES WITH PRIMARY LESIONS PRESENT (WHETHER PRIMARY OR SECONDARY SYPHILIS).

DIAGNOSIS	NUMBER AND PERCENTAGE OF CASES				
	PRIMARY		SECONDARY(PRIMARY PRESENT)		TOTAL
	M.	F.	M.	F.	
Solitary genital sore	8(20.0%)	4(10.0%)	7(17.5%)	2(5.0%)	21(52.5%)
Multiple genital sores	9(22.5%)	1(2.5%)	3(7.5%)	- -	13(32.5%)
Extra-genital	- -	1(2.5%)	1(2.5%)	2(5.0%)	4(10.0%)
Recurr-ence	1(2.5%)	- -	- -	- -	1(2.5%)
Re-infection	3(7.5%)	- -	- -	- -	3(7.5%)
In assocn. with pregnancy	- -	1(2.5%)	- -	- -	1(2.5%)

TABLE XVI.

COMPOSITE TABLE SHOWING INCIDENCE OF CASES WITH PRIMARY LESIONS (PRIMARY AND SECONDARY SYPHILIS).

DIAGNOSIS	NUMBER AND PERCENTAGE OF CASES		
	MALE	FEMALE	TOTAL
Primary Sero-negative	9(22.5%)	2(5.0%)	11(27.5%)
Primary Sero-positive	10(26.0%)	4(10.0%)	14(35.0%)
Secondary with primary lesions	11(27.5%)	4(10.0%)	15(37.5%)
TOTAL	30(75.0%)	10(25.0%)	40(100.0%)

The need for dark-ground microscopy in the diagnosis of early syphilis is made clear by the above figures.

The study/.....

The study of Tables XIV, XV, and XVI reveals the following:-

(1) The first striking feature is the relative paucity of cases of primary syphilis as compared with secondary syphilis (25 as compared with 132). The African shows a remarkable indifference to the presence of a sore on the genitalia, as compared with the European. He rarely shows venerophobia to the same extent. It is not unusual for a patient to report to me mainly on account of the smell associated with secondarily infected condylomata of the scrotum or vulva, and then at the insistance of the people occupying the same sleeping quarters. The photograph illustrates a case of secondary syphilis, who was compelled by his fellow workers to report to me on account of the smell associated with his lesions. He defaulted after one attendance.

PHOTOGRAPH 2. (CASE NO. M/55/1/51).

(2) The preponderance of male cases of primary syphilis (19) as compared with female (6) is the rule, probably because anatomical considerations are instrumental in bringing male cases under surveillance at an earlier stage.

(3) The high incidence of multiplicity of chancres (13 out of 40, or 32.5%, for both sexes, and 12 out of 30 or 40% for males only) is of interest.

White/.....

White and Brown (1920) found 18.8 % of multiplicity in 9000 male cases of primary chancres. The standard error in the cases of multiplicity of chancres in males found in this series is 9%, which is less than half the difference between 40% and 18.8 % (the difference is 22.2 %). It is therefore statistically significant. It also confirms my own impression of five years' experience. A possible explanation is that circumcision is not practised by the Zulus. The incidence of phimosis in Zulus as seen here is high. The increased trauma in intercourse may account for the high incidence of multiplicity.

(4) There were chancres found extragenitally in four cases - 1 male and 3 females. In the former, the chancre was in the groin. In the latter, all three were situated on the left thigh (inner aspect), and all three were contracted during "soma" (external intercourse) episodes. Furthermore, the hymens were intact in all three cases. Photograph 3. shows such a case of extragenital chancre of left thigh ((No. F/197/8/51). This was a case of primary syphilis, dark-ground positive, Wasserman positive.

PHOTOGRAPH 3. - (CASE NO. F/197/8/51)

I have yet to find a case of extragenital chancre in the mouth region. This is probably accounted for by the fact that Zulus do not indulge in the custom of kissing, although communal drinking vessels are the rule. (19.6% of secondary syphilis nevertheless presented with oral lesions in this series).

(5)/.....

(5) Recurrences were found in only one case in this series, although relapses were encountered in 25 cases. These relapses I found usually to manifest themselves in the form of generalised secondary lesions.

(6) Re-infections were found in three cases, one of whom presented as a sero-negative case with the scar of a previous chancre present on the glans, and dark-ground examination positive from the fresh chancre. One of the sero-positive cases presents some interesting features and was the subject of an article submitted to the S.A.Medical Journal (Lamont N.McE. 1951). This case report will be detailed in later pages.

CASE REPORTS OF PRIMARY SYPHILIS

CASE NO. M./67/2/51.

This was a case of primary sero-negative syphilis.

HISTORY.

The patient reported to me on 6/2/51. He was a young, well-built Zulu of twenty years, who had left home for the first time two months previously.. He was born and brought up in the Impendhle Native Reserve, about 30 miles from Howick.

He came to Howick in search of work, and stayed as a lodger with an uncle at the Howick Native Village. At the time of examination, he was unemployed, but had worked during the month of January in the Howick Bakery.

He had received two years' schooling at Impendhle, and was a member of the American Board Church.

He admitted to me that he had never experienced intercourse at Impendhle, and would have been in serious trouble for indulging in such a pastime while unmarried.

His first and only sexual experience was in the middle of January, 1951, when he met a girl called Victoria . This girl I tried to trace, as she was blamed by two other cases as the source of their syphilis, but my efforts were

fruitless. His encounter took place three weeks prior to my examination.

PHYSICAL EXAMINATION.

The photograph illustrates the genital manifestations. There was a well marked phimosis. The prepuce was retractable for a few millimetres only. There was extensive oedema of the prepuce, and a purulent discharge. The chancre felt button-like to the touch. There was a noticeable smell, which I find characteristic of syphilitic lesions of the genitalia in Africans.

PHOTOGRAPH 4. (CASE NO. M./67/2/51)

The inguinal glands were enlarged, more so in the left groin than in the right. They were painless to the touch. No skin lesions were evident. There was no lesion detectable in the mouth, and physical examination of liver, spleen, nervous system, and cardio-vascular system was negative.

Laboratory Diagnosis

A dark-ground microscopy was done of the juice obtained from the margin of the chancre. The technique employed was that of Muir and Ritchie (1937), viz:-

The edge of the lesion was cleansed with ordinary tap water. A swab of absolute alcohol was then placed on the lesion for one minute. The lesion was again cleansed, and allowed to ooze for a short while. The juice was then placed on a clean glass slide by direct contact, and a fine cover-slip squeezed tightly on to the slide (I usually cover the edges of cover-slip with a thin layer of vaseline, to prevent drying, and examine within three or four hours).

A standard/.....

A standard Leitz microscope with Abbe dark-ground condenser (for slide thickness 1.2 m.m.), and Leitz microscope lamp (with transformer) was used. (Direct sunlight I found impracticable).

The slide revealed on an average 8 spirochaeta pallida per field.

Blood for the Wasserman test was taken by the direct method of needle into specimen tube. This blood was sent by post to the Government Pathologist in Durban, and the report received about six days later.

The report in this case was negative.

TREATMENT.

The patient was given intra-muscular injections of Procaine-penicillin G in oil, 300,000 units daily. Combined with this he was given Neohalarsine Tartrate .06 gm. intravenously for the first injection, and .09 gm. subsequently, in conjunction with .2 gm. bismuth salicylate intramuscularly. The arsenic and bismuth injections were given twice weekly. After he had received 8 penicillin injections and 5 Neohalarsine/bismuth injections, the patient defaulted. I have not been able to trace his whereabouts, but I believe he has returned to Impendhle.

The routine described above was employed in all cases of this series except those not presenting any external lesions for microscopy. The average time taken over each case examination was 45 minutes approximately, the greater part of which was given to the taking of the history. I am reasonably fluent in Zulu, but I have found, particularly with the Zulu women, that this is a laborious process. I have known it to take at least five minutes to determine the age of the patient.

CASE NO. M./152/5/51).

HISTORY.

The above patient was a young Zulu of 21 years, who reported to me on 29/1/51. He was born on a native reserve in the Table Mountain area just outside Pietermaritzburg. He married in 1949, was the father of two healthy children, and had made his home at his birthplace. Eighteen months ago, he came to Howick in search of work, and obtained it at the South African Rubber Manufacturing Company. He lived in lodgings on a neighbouring farm, and visited his wife once or twice a year. For an African, he was well educated - to Standard IV.

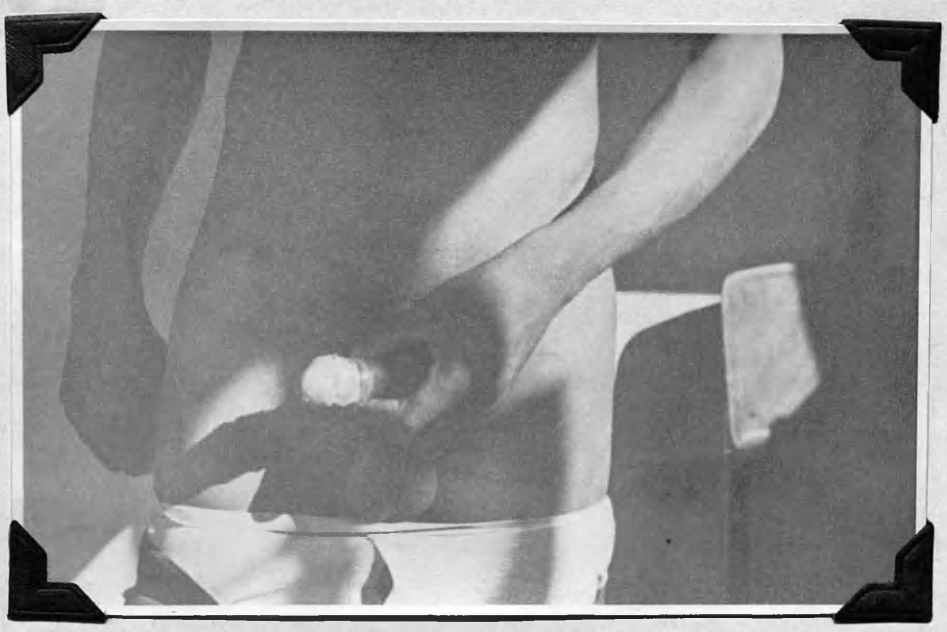
In July, 1950, he slept with a casual encounter, whose name he could not recollect. He reported to me in August, 1950, with multiple primary chancres, for which he received seven injections of Neohalarsine at irregular intervals. He then defaulted, till I saw him again in January, 1951.

He had recently developed sores of the genitalia again. On examination, there were five moist papules on the inner aspect of the prepuce. One was situated near the frenum, and four in a collar distribution, with the largest on the dorsum. His inguinal glands were painlessly enlarged to a noticeable degree. From the papule on the dorsum, a dark-ground microscopy revealed spirochaeta pallida readily. His Wasserman reaction, taken on 5/2/51 was positive. He received twice-weekly intravenous injections of Neohalarsine (.06 gm. initially and .09 gm. subsequently), combined with .2 gm. bismuth salicylate intramuscularly. He completed a course of ten such injections on 1/3/51. The lesions rapidly subsided. His Wasserman reaction, taken on 7/5/51, was negative.

Seventeen/.....

Seventeen days later on 24/5/51, he reported to me again. His story was that on or about the 15th of April,1951, he had slept with E.M., a girl working in Pietermaritzburg, and living in a location. In all he slept with her three times. On 18/5/51, eleven days after I had taken a blood specimen which gave a negative Wasserman reaction, he noticed a sore developing on the penis. As the photograph shows, there was a typical primary chancre present on the left, lower side of the prepuce. It was indurated and button-like, and flicked over with retraction of the prepuce. Dark-ground examination showed it to be teeming with spirochaeta pallida. The Wasserman reaction, taken on 24/5/51, was positive.

PHOTOGRAPH 5.(CASE NO.152/5/51).



TREATMENT.

He received 10 injections of penicillin (procaine G in oil), 600,000 units at daily intervals, with rapid recession of lesions. Early in August, 1951, his Wasserman reaction was negative, as was his Kahn reaction.

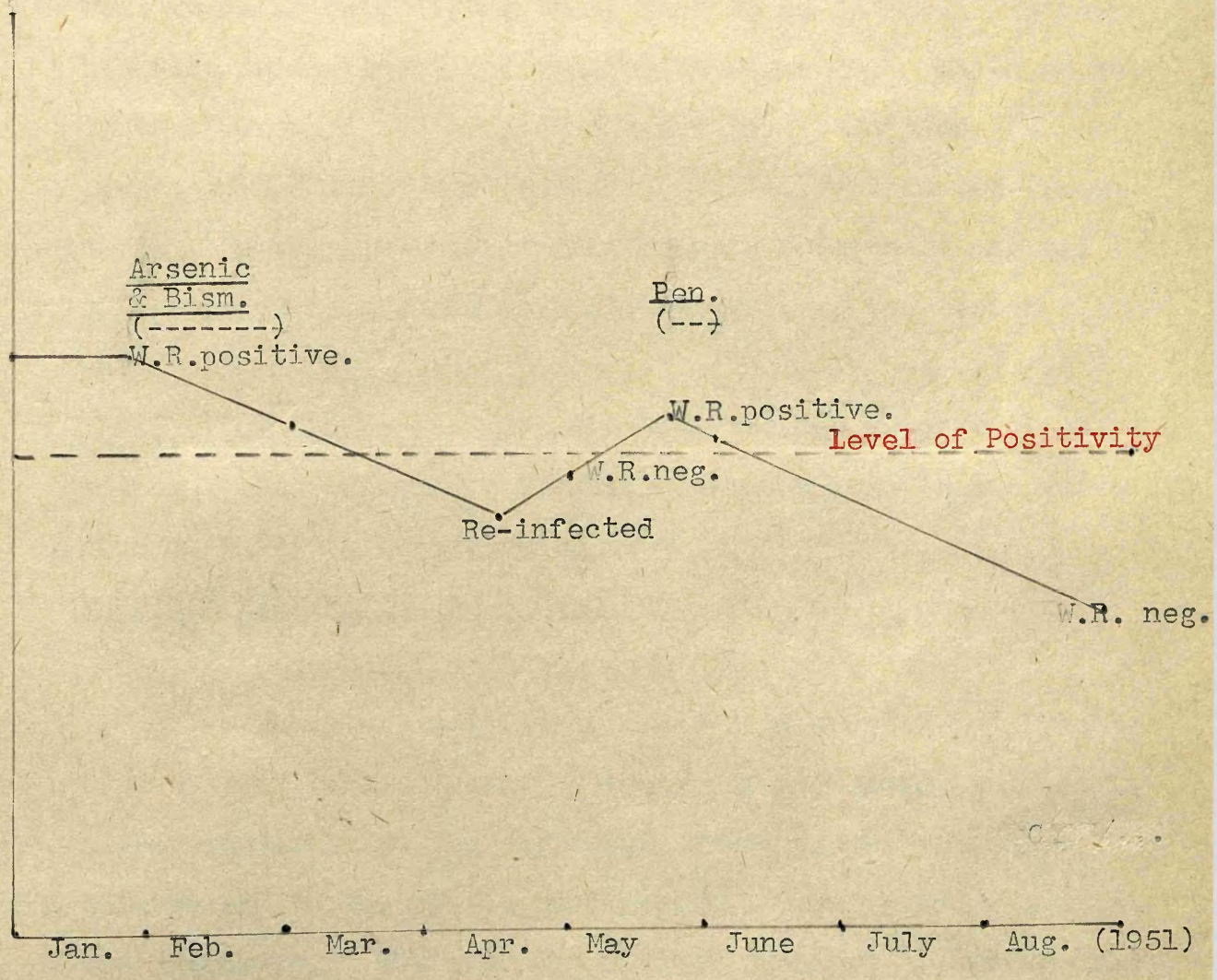
A reconstruction of his clinical state could be as follows:- He had a primary infection in August, 1950, and owing to inadequate treatment, relapsed in January 1951, when he presented with multiple moist papules of the prepuce.

The treatment/.....

The treatment he then received must have been sufficient to put the reagin content of his blood (O'Malley 1950) on the downward trend. On 7/5/51, it must have been immediately below the level of positivity. In the meantime, the patient had been re-infected, the primary chancre appearing eleven days after the 7/5/51. Six days after the chancre had appeared to the naked eye, the Wasserman reaction was positive. The diagram serves to illustrate the hypothetical tracing of his blood reagin level.

DIAGRAM

HYPOTHETICAL TRACING OF BLOOD REAGIN LEVEL.



CASE NO. F/161/6/51. AND CASE NO. M/171/6/51.

HISTORY.

The former case was a married woman of 26 years of age, who reported to me on the 5/6/51. She was born and brought up on the Swartkops Native Location (about fifteen miles from Howick). In 1946, she married the latter case mentioned above, and was the mother of two healthy children. She gave no history of any still-births or miscarriages. She had had one year's schooling, and was a Roman Catholic. Her husband left her in 1947 for the Transvaal, to work on the Gold Mines. He was away from her till 1950, when he returned to Natal, and is now employed at the South African Rubber Manufacturing Company at Howick. His wage in June was £2. 10. 0. per week as a labourer, and he was living at Howick West where he paid 12/6 a month rent to an Indian. He saw his wife in the Swartkops Reserve at weekends. While he was in the Transvaal, he adopted a concubine. In 1950, he developed a sore on the genitalia, while still in the Transvaal. He was given one injection by a Government medical officer, and he assumed that all was well as the lesion cleared up.

The wife was emphatic that she had slept with only one man - her husband. She had noticed a sore of the vulva four days before reporting to me.

PHYSICAL EXAMINATION.OF BOTH CASES.

Case No.F/161/6/51.

There was a solitary ulcer half an inch in diameter of the right labium minor. It was not indurated, and had a greyish slough on its surface. There was no glandular enlargement in the groins, and physical examination was otherwise negative. She was five months' pregnant. Dark-ground microscopy from the lesion revealed the spirochaeta pallida. Her Wasserman reaction was negative.

Case No.M/171/6/51.

Examination of the husband was conducted fourteen days later. He was traced via his wife. He denied the presence of any lesions, but examination revealed three fissure ulcers of the prepuce. They were slightly indurated to the touch. Apart from a mild enlargement of the inguinal glands, physical examination was otherwise negative. Dark-ground microscopy showed the spirochaeta pallida, and his Wasserman reaction was positive. I assumed the diagnosis in this case was a recurrence of a primary chancre. It could, however, have been a case of preputial condylomata.

TREATMENT.

The Wife received 9 daily injections of penicillin (600,000 units) and the husband received 10 injections of the same quantity of penicillin. Their lesions rapidly cleared up. Neither has reported back despite instructions to do so.

SECONDARY SYPHILIS.

This has been grouped as follows:-

BA : Cutaneous - i.e. with a syphilitic rash present, as

BAa : A macular rash.

BAb : A papular rash.

BAab: A macule-papular rash.

BAc : A pustular rash.

BAd : A follicular rash.

BAe : Annular syphilides.

BB : Mucous membrane manifestations.

BBa : Oral.

BBb : Genitalia (labia,preputial).

BBc : Anal.

BC /.....

BC : Skeletal - e.g. periostitis and hydrarthrosis(excluding Clutton's joints and Charcot's joints).

BD : Ocular - e.g. conjunctivitis, iritis, and choria-retinitis.

BE : Alopecia.

BF : Visceral - e.g. liver, the organ affected being specified.

BG : General reticulo-endothelial reaction - adenopathy being the main manifestation.

BH : Relapse.

BI : Unclassified (specified).

BJ : In association with pregnancy.

BK : Hoarse voice.

BLa : Secondary syphilis with established history of primary infection within four years.

BLb : Secondary syphilis(latent) with established history of primary infection in the mother of a syphilitic child.

BM : Secondary lesions with primary lesion still present.

As will be anticipated with a disease of such ubiquitous tendencies, one patient may present with a number of the syndromes here specified.

Diagnostic criteria in this group include:-

(1) A careful history (to determine the date of initial infection)

(2) Dark-ground microscopy in cases presenting skin or mucous membrane lesions.

(3) Serological examination(Wasserman test).

Some cases will obviously not satisfy all three criteria.

TABLE XVII/.....

TABLE XV11.

INCIDENCE OF EACH SYNDROME IN RELATION TO TOTAL CASES DIAGNOSED AS SECONDARY SYPHILIS(132 CASES)

DIAGNOSIS	NUMBER AND PERCENTAGE OF CASES		
	MALE	FEMALE	TOTAL
Macular rash	2(1.5%)	2(1.5%)	4(3.0%)
Papular rash	16(12.1%)	18(13.6%)	34(25.7%)
Maculo-papular rash	4(3.0%)	3(2.3%)	7(5.3%)
Pustular rash	5(3.8%)	- -	5(3.8%)
Follicular rash	1(0.8%)	- -	1(0.8%)
Annular syphilides	5(3.8%)	1(0.8%)	6(4.6%)
Total cases with skin lesions	23(17.4%)	24(18.2%)	47(35.6%)
Oral lesions	14(10.5%)	12(9.1%)	26(19.6%)
Genital lesions	13(9.9%)	34(25.7%)	47(35.6%)
Anal lesions	2(1.5%)	8(6.1%)	10(7.6%)
Total mucous lesions	21(15.9%)	39(29.5%)	60(45.4%)
Total muco-cutaneous	33(25.0%)	48(36.4%)	81(61.4%)
Skeletal	2(1.5%)	- -	2(1.5%)
Alopecia	- -	- -	- -
Visceral lesions	6(4.6%)	6(4.6%)	12(9.2%)
General reticulo-endothelial reaction	1(0.8%)	4(3.0%)	5(3.8%)
Relapse	13(9.9%)	12(9.1%)	25(19.0%)
Unclassified	3(2.3%)	1(0.8%)	4(3.1%)
In association with pregnancy	- -	14(10.5%)	14(10.5%)
Hoarse voice	1(0.8%)	8(6.1%)	9(6.9%)
Latent	12(9.1%)	8(6.1%)	20(15.2%)
Latent - mother of syphilitic child	- -	17(12.9%)	17(12.9%)
Secondary syphilis with primary present	11(8.3%)	4(3.0%)	15(11.3%)

TABLE XV111/.....

TABLE XV111.

THE CLASSIFICATION OF SECONDARY SYPHILIS ACCORDING TO PREDOMINANT SYNDROME MANIFESTED.

DIAGNOSIS	NUMBER AND PERCENTAGE OF CASES		
	MALE	FEMALE	TOTAL
Muco-cutaneous	33(25.0%)	48(36.4%)	81(61.4%)
Visceral	3(2.3%)	1(0.8%)	4(3.1%)
Adenopathy	1(0.8%)	3(2.3%)	4(3.1%)
Unclassified	1(0.8%)	- -	1(0.8%)
Skeletal	1(0.8%)	- -	1(0.8%)
Latent	12(9.1%)	8(6.1%)	20(15.2%)
Latent - mother of syphilitic child	- -	16(12.1%)	16(12.1%)
Latent - pregnant	- -	5(3.8%)	5(3.8%)
TOTAL	51(38.6%)	81(61.4%)	132(100.0%)

A study of Tables XV11 and XV111 together reveals the following:-

(1) Approximately 70% of the cases of secondary syphilis in this series showed active lesions, 61.4% of which were muco-cutaneous lesions. The low incidence of latency is of interest when compared with Heller's analysis (Heller - 1945), of the United States of America figures for the years 1941 - 1944. The explanation lies, I feel, essentially in the type of people forming the cases for analysis (the Africans), and their reasons for reporting for treatment. Very few, if any, report because they understand the workings of syphilis - the majority report on account of the presence of active lesions.

(2) The greater incidence of secondary syphilis in females is partially accounted for by the inclusion of the categories BLb and BJ - viz:- latent, mother of syphilitic child, and latent, pregnant, respectively.

(3)/.....

(3) In descending order, the clinical entities appeared in the following frequency:-

1. Genital lesions.....35.6%
2. Papular rash.....25.7%
3. Mouth lesions.....19.6%
4. Visceral lesions..... 9.2%
5. Peri-anal lesions..... 7.6%
6. Hoarse voice..... 6.9%
7. Maculo-papular rash..... 5.3%
8. Annular syphilides.....4.6%
9. Pustular rash..... 3.8%
10. General reticulo-endothelial reaction..... 3.8%
11. Unclassified..... 3.1%
12. Macular rash..... 3.0%
13½ Skeletal syphilis..... 1.5%
14. Follicular rash..... 0.8%

1. Genital Lesions (35.6%).

A typical case is that illustrated by the photograph (No.6). This was a case of syphilis (No.F/33/12/50) which was contracted maritally. She reported to me on the 28/12/50.

She was a girl, aged 19 years, who was 8 months' pregnant. The photograph shows extensive condylomata lata. Her inguinal glands were markedly enlarged. There was the characteristic smell associated. Her axillary and post-cervical glands were enlarged, as were the glands in the anterior triangle of neck. There were snail-track ulcers on each tonsil. No skin lesions were detected.

Dark-ground microscopy from one of the vulvar lesions showed numerous spirochaeta pallida. Her Wasserman reaction was positive.

Photograph 6/.....

PHOTOGRAPH 6a. (CASE NO. F/211/9/51) - A CASE OF MOIST PAPULES OF PERINEUM.

PHOTOGRAPH 6. (CASE NO.F/33/12/50).

She was given 300,000 units of Procaine-penicillin G in oil daily for 8 days. She then defaulted. On 23/1/51, her child was born dead. It was, according to her report, a macerated foetus.

2. Papular Rash (25.7%)

The photograph illustrates the typical papular rash (Case No.M/64/2/51). In this case there was a certain amount of keratinisation at the apex of each papule. The primary chancre was still present (see photograph). The phimosis is noteworthy. There were large ulcers on each tonsil. The liver was enlarged and tender.

PHOTOGRAPH 7. (CASE NO.M/64/2/51).

He was/.....

He was treated with bi-weekly injections of Neohalarsine Tartrate (.06 gm.initially and .09 gm. subsequently), in combination with .2 gm. bismuth salicylate intramuscularly. (At that time, penicillin was reserved for special cases only, such as early primary syphilis and the pregnant syphilitic female).

After 5 such injections, he complained of feeling dizzy. On examination, his conjunctivae were icteric, and his liver was palpable 2½ finger-breadths below the costal margin. His urine contained bile. He was given B.A.L. 100 mg. every four hours for one day (3 injections), and recovered uneventfully. He then defaulted.

This was the only serious reaction to arsenical compounds encountered by me in Africans in my experience here. I feel the reason for this low reaction incidence may be because most arsenical injections are given by me in the mornings - after the patients have consumed their breakfast of (usually) mealie-meal porridge. Consequently, by virtue of a high carbohydrate content, their livers may be well fortified against damage.

In this series, three other minor reactions to arsenic were met - nausea and vomiting in all three cases.

3. Mouth Lesions (19.6%).

These usually presented as mucous patches on or near the tonsil area. One case had extensive ulceration along the tooth-gum junction (Case No.M/16/12/50), in association with bleeding spongy gums. He will be mentioned under the discussion on visceral lesions.

4. Visceral Lesions (9.2%).

In all but onecase (enlarged spleen in a case with muco-cutaneous lesions - Case No.F/89/2/51), the viscus affected was the liver. Two of the cases had what I interpreted as irregular hepatic cirrhosis, and one as a gumma (Muir 1936).

All three/.....

All three had gross enlargement of liver, biluria, and signs of partial collapse at the right base of lung. They all responded to small doses of arsenic intravenously. The case of the gumma (Case No.M/16/12/50) mentioned above, who had the mouth lesions described, presented the phenomenon of massive oedema of legs (up to the groin), ascites, and oedema of the face. The urine contained bile, but no albumin was detected. This case reported to me again on the 17/9/51, and examination revealed the classical hepar lobatum.

The feature common to all the cases of liver involvement (11) was defuse enlargement of theliver, tender to palpation, which subsided with treatment.. I assumed that, with the exception of Case No. M/16/12/50, they were cases of a greater or lesser degree of irregular cirrhosis, as described by Muir.

5. Peri-anal Lesions (7.6%).

These usually presented as moist papules or condylomata.

6. Hoarse Voice (6.9%).

I have found an African patient with a hoarse voice very commonly has secondary syphilis.

7. Maculo-papular Rash (5.3%).

This was detectable only in the light-skinned African, as was the macular rash.

8. Annular Syphilides (4.6%).

I have included under this heading the squamous macular skin lesion, and the nodular serpiginous syphilide met usually in the late secondary syphilitic. The former is illustrated in the photographs 8 and 9 of Case No.F/202/8/51. The latter is illustrated by photograph 10 of Case No.M/40/1/51.

Also evident/.....

Also evident in this case were pustular syphilides of the hair-margin, and a serpiginous type of condyloma in the frenal area (see photograph 11).

PHOTOGRAPH 8 (CASE NO.F/202/8/51).

PHOTOGRAPH 9 (CASE NO.F/202/8/51).

PHOTOGRAPH 10 (CASE NO.M/40/1/51).

PHOTOGRAPH 11/....

PHOTOGRAPH 11 (CASE NO.M/40/1/51).

15. Pustular Rash (3.8%).

Photograph 12 shows a pustular rash affecting the scalp region in Case No.M/57/1/51. This case will be discussed under "Unclassified."

PHOTOGRAPH 12 (CASE NO.M/57/1/51).

Photograph 13 of Case No.M/92/3/51 illustrates the varioloid appearance which may be given by a pustular syphilide. I recollect an experienced colleague diagnosing a pustular syphilide as a case of small-pox, and my first impression was to concur with the diagnosis.

PHOTOGRAPH 13 (CASE NO.M/92/3/51).

10. General Reticulo-endothelial Reaction (3.8%).

The usual picture here was well-marked enlargement of lymph glands and faucial lymphoid tissue, in association with a history of syphilis and a positive Wasserman reaction.

11. Unclassified (3.1%).

There were 5 cases under this heading.

Case No. M/57/1/51.

This was a case of a pustular syphilide of the scalp (see photograph 12), who reported on 23/1/51.

Dark-ground microscopy from a scalp pustule (after removal of crust) was positive, and his Wasserman reaction was positive. His liver was not palpable.

He was given 10 injections of arsenic intravenously (.06 gm.followed by .09 gm. Neohalarsine tartrate), in conjunction with bismuth salicylate (.2 gm.) intramuscularly. These were given twice-weekly. He completed the course on 23/2/51.

His Wasserman reaction on 23/4/51 was negative. A second course of treatment was begun on 30/4/51, and he received the same dosage of arsenic and bismuth at weekly intervals. In all, he received three injections, when he developed an acute amoebic abscess of the liver. He was admitted to Grey's Hospital, Pietermaritzburg, where he received ten daily injections of Emetine gr. 1, and was discharged clinically cured.

On 30/8/51, he was accidentally killed by a train. Post-mortem revealed a large amoebic abscess (the size of a fist) in the right lobe of liver. His blood alcohol was over 300 mg. per cent.

The question which arises is whether the syphilitic infection and/or the arsenotherapy contributed in any way to the development of the amoebic abscess of liver.

The other cases mentioned under the heading "Unclassified" were : -

Case No. M/59/1/51 - a framboesiform syphilide protruding from the left nostril.

Case No.F/62/1/51 - an advanced case of tuberculous cavitation of lung in association with vulvar lesions.

Case No. F/142/5/51 - A leper probationally discharged from a leper colony who was the mother of a syphilitic child.

Case No. M/198/8/51 - a case of plantar warts. This is a relatively common and very incapacitating condition among Africans of this district. It is characterised by painful, deep-seated verrucae of the soles of the feet. It is apparently a virus-caused lesion, and the only effective remedy seems to be deep X-ray therapy. In this series, two such cases have recorded evidence of a previous syphilitic infection. Previously, I have observed several others.

12. Macular Rash(3.0%).

The low incidence is explained by the fact that I found it impossible to detect a macular rash in the dark-skinned African. In fact, it is extremely difficult to observe the rash in such a flamboyant eruption as measles, when occurring in a dark-skinned African.

Photograph 14 provides an interesting diagnostic differentiation from the syphilitic rashes, viz:- a case of early leprosy (nasal scraping positive for B.Leprae). This is a condition which is reasonably common in this district.

PHOTOGRAPH 14 - A CASE OF EARLY LEPROSY.

13. Skeletal Syphilis (1.5%)

The two cases occurring were both cases of periostitis of the subcutaneous surface of tibia. The one (Case No.M/53/1/51) was a relapsed case. He had reacted badly to arsenic on his first attendance on 1/9/50, when he reported with a generalised papular rash (the primary was still present). He immediately betook himself to a witch-doctor. He returned later,however, to receive a full course of bismuth. Despite this, he reported on the 18/1/51, having relapsed in the form of periostitis of the left tibia.

This./.....

This responded readily to penicillin and bismuth therapy, and his positive reaction on 18/1/51 was converted to doubtful in February, and negative on 30/4/51.

The other case (Case No.M/35/12/50) presented such a variety of syndromes, that his case will be detailed here.

Case No.M/35/12/50.

The patient was a young Basuto lad aged 18 years. He had worked in the kitchen of his employer since the age of 9 years. His employer was a local farmer, with business interests and a second home in the Transvaal. Where his employer went, so did the patient go as (newly-promoted) cook. He was born, and had his home, at Zanani, near Pretoria. He was unmarried. Ten months ago, he had been home for a holiday, and had slept with a casual encounter in Johannesburg during that time.

Shortly afterwards, he developed a discharge, and swelling of the testicles. His employer gave him some sulpha tablets. After taking these, the urethral discharge and testicle condition subsided. A month later, he developed an ulcer in the right groin, for which he was given various ointments by his employer (who had relatives in the medical profession). The ulcer persisted, however, but began to dry out about three months prior to reporting to me. At this time, he developed a rash of the body, and skinning of the hands and feet. He came to consult me on account of a painful right shin, which had failed to respond to a liniment provided by his employer.

On examination, a healed primary chancre of the right groin (see photograph 15) was found, and subsiding scrotal condylomata. In addition, there were papulo-squamous syphilides of the palms of hands, and soles of feet (see photograph 16). There were papular lesions of both angles of

mouth/....

mouth, and a few discrete papules on the face and right arm. There was a tender swelling of the lower end of right tibia, situated on its subcutaneous surface. The glands in his groins were enlarged and shotty to the touch. His axillary glands were enlarged, and those in the anterior triangle of neck were markedly enlarged. There was a large ulcer on the left tonsil. His temperature was 99° F. Dark-ground microscopy of the serum from the papule at the left angle of mouth revealed the spirochaeta pallida. His Wasserman reaction was positive.

Hewas given an initial course of 10 daily injections of Procaine -penicillin G in oil (300,000 units), followed by a full course of Neohalarsine tartrate and bismuth.

PHOTOGRAPH 15 (CASE NO.M/35/12/50).

PHOTOGRAPH 16 (CASE NO.M/35/12/50).

14. Follicular Rash (0.8%)

A true follicular rash was present in only one case (No.M/40/1/51).

RELAPSES.

The relapse rate of 19% is indicative of the inefficacy of a regime, rather than a type of therapy.

In dealing with the type of patient found in this series, the arsenic-bismuth regime used by me in pre-penicillin days was quite inefficacious. This is evidenced by the high rate of relapse.

The main reason is, I feel, undoubtedly the length of time involved with arsenic and bismuth therapy, before a reasonable chance of cure is possible. A great deal of incentive is needed for a patient (particularly African) to attend uninterruptedly for months on end.

I feel that with the advent of penicillin therapy, there is every likelihood that this relapse rate will be greatly diminished.

.....

LATE SYPHILIS.

There were 23 cases under this heading. Of these, 11 showed active lesions, and 12 were latent.

AGE DISTRIBUTION.

TABLE XIX.

THE AGE DISTRIBUTION OF LATE CASES OF SYPHILIS ENCOUNTERED IN THIS SERIES.

AGE IN YEARS	NO. OF CASES		PERCENTAGE OF TOTAL	
	M.	F.	M.	F.
TOTAL	9	14	100%	100%
15 - 19	1	1	11.1	7.1
20 - 24	-	3	-	21.5
25 - 29	1	3	11.1	21.5
30 - 34	1	5	11.1	35.6
35 - 39	2	2	22.2	14.3
40 - 45	3	-	33.3	-
46 - 50	1	-	11.1	-

The salient point of information from the above was that late syphilis appeared to be manifested in the females at a much earlier age. The maximum incidence in males was in the 40 - 45 age group, whereas in females the age group 30 - 34 showed the maximum incidence.

TABLE XX/....

TABLE XX.

THE ANALYSIS OF LATE SYPHILIS ACCORDING TO THE PREDOMINANT SYNDROME EVIDENT.

DIAGNOSIS	NUMBER AND PERCENTAGE OF CASES		
	MALE	FEMALE	TOTAL
Nodular Cutaneous	1(4.3%)	1(4.3%)	2(8.7%)
Gumma of Skin	1(4.3%)	2(8.7%)	3(13.0%)
Cardiac Lesions	1(4.3%)	0 -	1(4.3%)
Visceral (gumma of palate)	- -	1(4.3%)	1(4.3%)
Nervous System	2(8.7%)	1(4.3%)	3(13.0%)
Iritis	- -	1(4.3%)	1(4.3%)
Latent - established history	- -	1(4.3%)	1(4.3%)
Latent - no established history	- -	5(21.7%)	5(21.7%)
Latent - mother of syphilitic child	- -	- -	- -
Latent - associated with sterility	- -	3(13.0%)	3(13.0%)
Latent - associated with pregnancy	- -	2(8.7%)	2(8.7%)
Latent - associated with plantar warts	1(4.3%)	- -	1(4.3%)
TOTAL	6(25.9%)	17(74.1%)	100.0%

Latency thus accounted for just over half the cases (12), of whom 11 were females. The figures for the active lesions are insufficient in number to provide any statistical deduction.

ACTIVE LESIONS/....

ACTIVE LESIONS.

1. Nodular Cutaneous Lesions.

There were two such cases. Photograph 17 illustrates a case of a nodular tubero-syphilide (Case No.F/130/4/51). This was a woman with a syphilitic infection of 6 years' duration. Her child, brought to me on 8/2/49, was found to be suffering from congenital syphilis with muco-cutaneous lesions.

PHOTOGRAPH 17 (Case No.F/130/4/51).

This lesion responded rapidly to anti-syphilitic therapy.

2. Gumma of Skin.

Photograph 18 shows gummatous lesions of the scalp in Case No.M/127/4/51. This patient was a man of 45 years of age. Six years previously, he had slept with a casual encounter at Lidgetton, and was treated at the Infectious Diseases Hospital in Pietermaritzburg for a syphilitic infection.

He married 5 years ago. Two children died in infancy. According to the patient, they both had syphilis.

The wife's/....

The Wife's blood gave a negative Wasserman reaction.

Since his original infection, the patient had observed no abnormality until the appearance of the lesions seen in the photograph.

PHOTOGRAPH 18 (CASE NO.M/127/4/51).

The edges of the lesions were adherent to the skull. The Wasserman reaction on 13/2/51 was positive, and despite two courses of arsenic and bismuth, has remained positive. This attachment at the edges is still present.

Photograph 19 shows a gumma in the classic site of the lower, outer, third of leg. This condition was found in a European woman, who lives the life of a recluse. The gumma has gone untreated for 9 years.

PHOTOGRAPH 19.

3./....

3. Cardiac Lesions.

There was only one case in this series (Case No.M/198/8/51). His story was as follows:-

He reported to me on 17/8/51. He was 38 years of age, and had left his home in the Swartkops Native Reserve in 1937 to work on the S.A.Railways. He married shortly before leaving home, and has since become the father of 7 children. Three of these died early in infancy. His wife's blood taken early in September, 1951, gave a negative Wasserman reaction.

Shortly after leaving home, he slept with a casual encounter and developed a sore of the penis, which went untreated.

PHYSICAL EXAMINATION.

Locally.

There was a scar present on the coronal sulcus, otherwise no local signs or skin lesions were present. The glands were enlarged in each groin.

General Examination.

The finger-nails and toe-nails showed marked clubbing. There was gross oedema of the legs, and he was extremely dyspnoeic.

Abdomen.

A moderate ascites was detected. The liver was palpable 3 finger-breadths below the costal margin.

C.N.S.

The knee-jerks were extremely active (this feature has since disappeared with treatment). No other abnormal neurological signs were detected.

Respiratory System.

Generalised moist râles were heard in both lungs.

Cardio-vascular System.

The pulse was rapid and regular.

The heart was clinically enlarged 4¼ inches to the left of the mid-line, in the sixth interspace. There was a loud systolic murmur at the apex, which did not extend into the axilla. There was also a diastolic murmur, localised to the lower end of the sternum and 3½ inches to the left of the mid-line in the sixth interspace. The aortic sounds were normal.

The veins of the neck were engorged.

The blood pressure was 145/80 mm. of mercury.

Urine.

This contained a faint cloud of albumin.

The Wasserman reaction on the 7/8/51 was positive.

He thus presented as an acute, congestive cardiac failure, with mitral valve involvement.

He was treated with bi-weekly injections of Procaine-penicillin G in oil (600,000 units) combined with Bismuth salicylate (.2 gm.). This is the schedule I have recently adopted as the result of the work of Bauer, Usilton, and Price (1950).

Within one week, the clinical improvement was most noticeable. On 30/8/51, the oedema of his legs and the ascites were not detectable. The systolic murmur at the apex had disappeared, but the diastolic murmur was still evident. The dyspnoea was greatly relieved. There was still a trace of albumin in the urine. On 13/9/51, he was noticed to have regressed slightly. The patient offered the explanation that, as he was feeling much improved, he had slept with his wife, and it had been too much for him.

I have/....

I have encountered at least five other cases of syphilitic cardiac involvement, prior to this series. One was an African male of 35 years of age, whom I saw first on 5/3/48 with a characteristic primary chancre. He received 3 injections of arsenic,and then defaulted. He reported again on 20/10/49. On this occasion, he presented as a clear-cut case of aortic regurgitation. I saw him periodically thereafter - in the throes of cardiac asthma. He died in the latter half of 1950.

I have had several cases of a seemingly accelerated syphilitic process, in association with inadequate treatment. One case in particular I recollect of a transverse myelitis of spinal cord, with paraplegia and bladder paralysis, occurring three months after a primary chancre,for which he received only one injection of arsenic before defaulting. I formed the impression that the interference with natural immunity, that a few injections of arsenic may provoke, maybe instrumental in leaving the patient in a particularly vulnerable condition. There is no case in this series,however, to support this supposition.

4. Visceral.

Photograph 20 shows a gumma of palate, with complete perforation. This occurred in Case No.F/74/2/51, a female of 40 years of age. The perforation was situated centrally in the soft palate. Following anti-syphilitic therapy, it healed over completely.

The Wasserman reaction in this case was positive on 12/2/51, and despite clinical cure of the lesion, was still positive on 12/6/51. This indicates a probable diminution of the reagin content of the blood, the level remaining, however, above the positive threshold.

PHOTOGRAPH 20/....

PHOTOGRAPH 20 (CASE NO.F/74/2/51).

5. Iritis.

The one case listed here was referred to me for treatment by an ophthalmologist.

6. Nervous System Lesions.

Three cases were included under this heading. Lumbar punctures were not done - I am averse to performing lumbar punctures on patients, who in most cases report to me on foot, having walked a number of miles. The diagnostic criteria in these three cases are thus incomplete.

They were all cases of what I assumed was interstitial CEREBRAL SYPHILIS, with a minimum of parenchymatous involvement. Case No. M/215/8/51 is an example of the material I have classified under this heading.

Case No.M/215/8/51.

The patient was a male Nyasa of 38 years of age. He could give no definite admission of a previous infection. On the 31/8/51, I was called to a railway station (he was employed on the S.A.Railways) to find the patient recovering from an epileptiform seizure (evidence was obtained from a reliable witness). The patient was emphatic of one thing,

namely,/....

namely, that he had never previously experienced an involuntary loss of consciousness. His age(38) tended to preclude idiopathic epilepsy.

Physical examination was negative, and there were no localising neurological signs. His blood showed a doubtful Wasserman reaction on 3/9/51, and a repeat on the 10/9/51, after one penicillin injection of 600,000 units, was reported as positive.

I feel that the prognosis in this case is reasonably good.

During the period under review, viz: December, 1950-September, 1951, as District Surgeon I have certified 3 cases of cerebral syphilis,who were diagnosed in hospital as general paralysis of the insane.All three had positive blood Wasserman reactions, and two had positive reactions of cerebro-spinal fluid with paretic Lange Colloidal Gold curves. (The third case died before lumbar puncture could be done.)

These cases were referred to Fort Napier Mental Hospital, Pietermaritzburg, from which this and the subsequent information was received. (Lamont,A.M.; personal communication by permission of the Superintendent, Dr.D.J. Rossouw.) In this hospital during the period 1/12/48 -13/9/51, of 369 male African first admissions, 77 gave a positive blood Wasserman reaction, 36 a positive cerebro-spinal fluid reaction. This gives a positive blood incidence of 20.9%, and positive cerebro-spinal fluid incidence of 9.8%.

LATENT SYPHILIS.

These cases were found mainly during the investigation of contacts and marital partners, or in patients seeking "injections."

CONGENITAL SYPHILIS

There were 18 cases of congenital syphilis encountered during the period under review.

TABLE XXI.

THE AGE DISTRIBUTION OF CASES OF CONGENITAL SYPHILIS.

AGE	NO. OF CASES		PERCENTAGE OF TOTAL	
	M.	F.	M.	F.
TOTAL	6	12	100	100
First 3 months of life	3	4	50.0	33.3
4 - 6 months	3	2	50.0	16.7
7 - 9 months	-	2	-	16.7
10 - 12 months	-	2	-	16.7
1 yr. - 5 yrs.	-	-	-	-
Over 5 yrs.	-	2	-	16.7

It will be noticed that the bulk of the cases (16) were aged 1 year and under. It was found that the highest incidence prevailed among the lowest age groups. The reason for the greater incidence in females is obscure.

Diagnostic criteria were:-

(1) Establishment of history in the mother (this was obtained in 17 out of the 18 cases).

(2) A positive Wasserman reaction of the blood of the mother. This was found in all cases.

(3) A positive dark-ground microscopy of lesions(except those cases presenting with dry macules, where I found the search usually fruitless.)

(4) Fontanelle puncture and serological examination of the blood(this was done in only one case - a case of marasmus).

The cases were grouped as follows:-

DAa : Under 1 year with muco-cutaneous lesions.

DAb : " " " with skeletal lesions.

DAc : " " " with visceral lesions.

DAd : " " " - unclassified.

DAf : " " " - snuffles.

DAg : " " " - alopecia.

DAh : " " " - marasmus.

DAi : " " " - rhagades.

DAj : " " " - hoarse cry.

DCb : Over 5 years - cutaneous (excluding condylomata).

DCc : " " " - mucosal (includes condylomata).

DCf : " " " - teeth (Hutchinson's or Moon's).

DCh : " " " - skeletal.

DCi : " " " - visceral.

TABLE XXll.

THE ANALYSIS OF CASES OF CONGENITAL SYPHILIS ACCORDING TO PREDOMINANT SYNDROME EVIDENT.

DIAGNOSIS	NUMBER AND PERCENTAGE OF CASES		
	MALE	FEMALE	TOTAL
Under 1 year - muco-cutaneous	5(27.8%)	9(50.0%)	14(77.8%)
Under 1 year - skeletal	- -	1 (5.6%)	1(5.6%)
Under 1 year - marasmus	1(5.6%)	- -	1(5.6%)
Over 5 years - mucosal	- -	1(5.6%)	1(5.6%)
Over 5 years - cutaneous	- -	1(5.6%)	1(5.6%)
TOTAL	6(32.4%)	12(67.6%)	18(100.0%)

TABLE XXlll/....

TABLE XXIII.

THE INCIDENCE OF EACH SYNDROME OF CONGENITAL SYPHILIS.

DIAGNOSIS	NUMBER AND PERCENTAGE OF CASES		
	MALE	FEMALE	TOTAL
UNDER 1 YEAR			
Muco-cutaneous	5(27.8%)	9(50.0%)	14(77.8%)
Skeletal	2(11.1%)	3(16.7%)	5(27.8%)
Visceral	1(5.6%)	2(11.1%)	3(16.7%)
Unclassified	- -	2(11.1%)	2(11.1%)
Snuffles	2(11.1%)	9(50.0%)	11(61.1%)
Alopecia	4(22.2%)	4(22.2%)	8(44.4%)
Rhagades	- -	1(5.6%)	1(5.6%)
Hoarse cry	2(11.1%)	2(11.1%)	4(22.2%)
OVER 5 YEARS			
Cutaneous	- -	1(5.6%)	1(5.6%)
Mucosal	- -	1(5.6%)	1 (5.6%)
Teeth(Hutchinson's)	- -	2(11.1%)	2(11.1%)
Skeletal	- -	1(5.6%)	1(5.6%)
Visceral	- -	1(5.6%)	1(5.6%)

Reference to Tables XXII and XXIII reveals :-

(1) 14 cases (77.8%) showed muco-cutaneous lesions under 1 year of age. A further 2 cases (11.1%) showed these lesions over the age of 5 years.

(2) The two remaining cases were a case of skeletal syphilis and a case of marasmus.

(3) The syndrome next in frequency to muco-cutaneous lesions was snuffles (61.1%). This was followed by alopecia (44.4%).

(4) Hutchinson's teeth were present in both cases over the age of 5 years.

At this juncture/....

At this juncture, it must be stressed that fontanelle punctures for Wasserman blood tests on children of known syphilitic mothers were not done as a routine. It is feasible, therefore, that some cases of latent congenital syphilis were missed. Nevertheless, a conclusion from the above figures may perhaps be drawn that, in an African child showing active signs of syphilis, these signs will, in the majority of cases, present as muco-cutaneous lesions. This conclusion also confirms my own impressions gained from practice among the African people.

DISCUSSION OF CLINICAL SYNDROMES.

A. As occurred in cases under 1 year of age.

1. Muco-cutaneous lesions

The macular lesion was more commonly encountered in the child than in the adult. 9 cases out of 16 of this age group showed macular lesions. These were fairly easily detected as areas of de-pigmentation, occurring usually on the sites where most trauma is encountered (e.g. buttocks and skin-folds). Photographs 20 and 21 illustrate. One factor which may account for the greater ease of detection of a macular rash in African infants is that they tend to be lighter-skinned at an early age. The mothers usually screen them from the sun when carrying them (in most instances on their backs with the child's head completely covered). This may tend to delay the deposition of melanin.

PHOTOGRAPH XX (CASE NO.F/25/12/50).

PHOTOGRAPH 21/....

PHOTOGRAPH 21 (CASE NO.F/25/12/50).

Photograph 22 shows the same case five weeks after treatment.

PHOTOGRAPH 22 (CASE NO.F/25/12/50).

Photograph 23 shows a similar type of lesion in the left groin of Case No. M/125/4/51. This case also had an ulcerative condition of the lower lip, and bossing of the scalp. The facies is characteristic. The umbilical hernia is common among Africans, presumably on account of their traditional treatment of the umbilical cord at birth. (See photographs24 and 25.)

PHOTOGRAPH 23./....

PHOTOGRAPH 23.(CASE NO.M/125/4/51).

PHOTOGRAPH 24 (CASE NO.M/125/4/51).

PHOTOGRAPH 25 (CASE NO.M/125/4/51).

Photograph 26./....

Photograph 26 illustrates Case No.F/180/7/51, who presented with peri-anal condylomata. It is of interest to note that this child received enemata at frequent intervals, the added trauma possibly accounting for the presence of condylomata solely in this distribution.

PHOTOGRAPH 26 (CASE NO. F/180/7/51).

This particular case was the only one in which, despite both maternal and paternal positive serology, no definite history of syphilis was obtainable. The mother, however, showed extensive tissue-paper scarring on the lower lateral aspect of right leg.

2. Skeletal.

No radiographs were taken, there being no X-Ray plant in Howick. One case showed chondro-epiphysitis (Case No. M/145/5/51), and one had an ulcerative condition of scalp (Case No.M/187/8/51). This latter condition was probably overlying a gummatous condition of skull. The three other cases grouped under this heading showed noticeable skull bossing.

3. Visceral.

Three cases showed enlargement of liver. One case, No. F/187/8/51, whose mother showed active skin lesions, had the characteristic kwashiorkor appearance found in children suffering from gross malnutrition(the child was breast-fed).

On examination/....

On examination, as photograph (27) -taken a few days after the institution of treatment - illustrates, the child looked ill. The Mucous membranes were pale, the eyes sunken, and face, limbs, and abdomen were swollen. There was hyperkeratosis of extensor surfaces of arms and legs, and the dorsal surfaces of both feet were covered by large, unilocular blisters. There was an ulcerative condition and alopecia of the scalp. Muco-pus exuded from each nostril, with associated excoriation of the upper lip immediately at the naso-labial juncture. There were mucous patches on each tonsil and the child emitted a barely-audible croak.

PHOTOGRAPH 27

It was given 300,000 units of procaine - penicillin G daily for 8 days. The recovery was dramatic.

This type of case in the pre-penicillin days would, I feel, almost certainly have died after the first administration of arsenical injection. This has been my experience. All but one of the cases of this series were treated with penicillin and the fatality rate was nil.

(4) Unclassified.

The two cases listed here have already been mentioned - the case described above, and Case No.F/180/7/51, the case of anal condylomata in association with the administration of enemata.

(5) Snuffles.

11 cases (61.1%) showed this feature, invariably in association with other lesions.

(6) Alopecia/....

(6) Alopecia.

8 cases (44.4%) showed alopecia. This was also associated with other lesions.

(7) Marasmus.

6 cases (33.3%) showed marasmus to an obvious degree. Case No.F/201/8/51 is illustrated by photograph 28. This was a male child aged one month, whose mother gave a history of syphilis, acquired early in 1947, for which she was treated by me with arsenic. She defaulted 3 times, and received in all 12 injections.

PHOTOGRAPH 28(CASE NO.F/201/8/51).

The child showed no external lesions, but had mucous patches on each tonsil. The Wasserman reaction of blood taken by fontanelle puncture was positive. Despite the child's being on the breast, the marasmus was gross, and it was too weak to cry. Snuffles and alopecia were both detected. Recovery was uneventful following penicillin therapy.
It is possible that the marasmus in this case was due primarily to liver damage.

Photograph 29 shows a case of syphilitic marasmus seen by me three years ago. The child died after 1 injection of metarsenobillon (.03 gm.).

PHOTOGRAPH 29 - A CASE OF SYPHILITIC MARASMUS.

(8) Rhagades.

This was found in only 1 case.

(9) Hoarse Cry.

This occurred in 22.2% of cases, and was presumably due to mucous patches affecting the larynx.

B. As occurred in cases over 5 years ago.

Two cases were met, both females (Case No.F/97/3/51& Case No.F/136/5/51).

The former was a young child of 7 years. Her mother, a widow and mother of 7 children (this case was the seventh child), gave no history of syphilis.

PHOTOGRAPH 30 (CASE No. F/97/3/51).

PHOTOGRAPH 31 (CASE NO.F/97/3/51).

As is seen in photographs 30 and 31, the case showed

(a) Vulvar condylomata (recently developed),

(b) Skull bossing, and

(c) Hutchinson's teeth.

Her tonsils were greatly enlarged, and there was a large mucous patch on the left anterior pillar of the fauces. Dark-ground microscopy showed the spirochaeta pallida, and the Wasserman reaction of blood taken on 21/3/51 was positive. She was treated with penicillin.

The other case (Case No.F/136/5/51) presented the feature of dried, impetiginoid lesions of scalp. The Wasserman reaction was positive, but a dark-ground examination from a scalp lesion failed to reveal the causal organism. The liver was palpable 1½ finger-breadths below the costal margin. This child was the illegitimate daughter of Case No. F/74/2/51, the case presenting as a gummatous perforation of palate.

PROBLEMS OF TREATMENT.

Treatment has been mentioned briefly in the survey of clinical material, when reference to individual cases has been made. The main forms of therapy used were :-

(1) Neohalarsine Tartrate.

This was given intravenously in doses of .06 gm. initially followed by .09 gm. in male adults. In females, the initial dose was .045 gm.,followed by .06 gm.

(2) Bismuth Salicylate.

This was given intramuscularly in doses of .2 gm., in conjunction with the above.

The combined injections were given at bi-weekly intervals for a total of 10 injections.

(3) Procaine-penicillin G in oil.

This was originally given at daily intervals, in doses varying from 300,000 units to 600,000 units, for a total of 10 injections. Latterly, I have given 600,000 units at bi-weekly intervals for a total of 8 injections. The original penicillin scheme is the one still adopted for congenital syphilis.

The choice of a scheme for a particular patient has depended on :

a. the type of syphilis presenting:- Early syphilis and in association with pregnancy, received penicillin, whereas late and latent syphilitics were given arsenic and bismuth. A factor here was the supply of penicillin, which was, and still is, in short supply.

b. the circumstances of the patient. Until the adoption of the bi-weekly scheme, it was given only to those cases who were in a position to report at daily intervals.

The main consideration, however, has been the realisation, through experience, that the vast majority of cases would default.

The analysis/....

The analysis of treatment attendances appearing below confirms this view. Efforts were thus directed:

a. to reach the maximum dosage as soon as possible. In the case of the arsenical injections, this was achieved at the second injection.

b. to administer as many injections as possible before the inevitable disappearance of the patient - hence the bi-weekly arsenic-bismuth routine.

TABLE XXIV shows an analysis of treatment attendances. 195 cases are reviewed, the remaining 6 of the 201 of this series comprising 3 cases of chancroid and 3 cases who came under my surveillance, but did not receive treatment.

TABLE XXIV.

ANALYSIS OF TREATMENT ATTENDANCES.

TYPE OF THERAPY	NO TREATED	STILL ON TMT.	COMPTD.1 COURSE	DEFAULTED	PERCENTAGE DEFAULTING
Penicillin only.	56	17	27	12	30.8
" followed by arsenic & bismuth	16	-	4	12	75.0
Penicillin and bismuth	2	1	1	-	-
Arsenic and bismuth	121	8	61	52	46.0
TOTAL	195	26	93	76	45.0

5 cases completed 2 courses of arsenic and bismuth.

4 cases completed a combined penicillin and arsenic-bismuth regime.

1 case completed a combined penicillin and bismuth treatment

This was despite instruction to all cases completing 1 course of penicillin (27), or all cases completing 1 arsenic-bismuth course (61) to report back for further treatment.

In those cases/....

In those cases who were not still on treatment, the average number of injections given were, per course:

Penicillin.....5.4
Arsenic-bismuth.....7.1

Willcox (1951) draws attention to the 1950 report of the World Health Organisation, which compared data from two London clinics with figures from America (Guthe and Reynolds, 1951), with reference to the treatment of early syphilis. The cumulative failure rate with penicillin alone was 14.5%, with penicillin and bismuth 13.6%, but only 5.4% with penicillin, arsenic, and bismuth. The toxicity rate, however, was .12 and .91% for the two former, as compared with 9.55% with the latter. In addition, 96.8% of those receiving penicillin alone completed the course, compared with 83.2% (penicillin and bismuth), and 69.8% (penicillin, arsenic, and bismuth).

With these considerations in mind, a study of Table XXIV may produce the following conclusions:-

(1) The higher default rate with the arsenic-bismuth regime as against the penicillin-alone regime could in some measure be due to reactions of nausea, causing a patient eventually to default. The time factor,however, is probably the main causative factor. The longer the therapy, the greater will be the default rate, and this applies particularly to the African.

(2) With such a high overall default rate, the degree of surveillance will be correspondingly reduced. Thus, any type of therapy,which will give a reasonable chance of cure in a relatively short period of time, is obviously the treatment of choice. Penicillin, I feel, answers these requirements.

CHANCROID.

Photograph 32 shows Case No.M/204/8/51, a case of chancroid. From the bubo in the left groin, 3 c.c. of pus was aspirated. Dark-ground microscopy for spirochaeta pallida was negative on two occasions. The Wasserman reaction was also negative. The lesion cleared up on four/hourly doses of 1 gm. of sulphathiazole for a total of 25 gm..

Three cases of chancroid were met in this series.

PHOTOGRAPH 32 (CASE NO.M/204/8/51).

CHAPTER IV.

SOCIAL SURVEY.

The preceding chapter shows that, in the Bantu of this district, syphilis is essentially an acute infectious disease.

A socio-economic analysis of each patient has been made. In addition, certain serological surveys will be reviewed. An endeavour will be made to relate the information gained with the basic factors leading to the contraction of syphilis.

Moore(1951) has analysed the incidence of early syphilis in United States civilians for the years 1941 - 1949. He found :- (1) The peak incidence was attained in 1943.

(2) The incidence of primary and secondary syphilis was less than that of early latent.

(3) At no time did the civilian incidence exceed 2 per 1000 of the population.

Among his conclusions, in a study of world-wide available data, was that war or internal unrest was accompanied by an increase in morbidity of syphilis, followed by a post-war decrease. He also made the inference that there was a decrease in the incidence of syphilis in Western Europe and the United States of America from 1865 - 1910. This, he said, could be attributed to :-

(a) Natural phenomena of the infectious disease, with modifications of the host-parasite relationship;

(b) General improvement in socio-economic conditions;

and (c) Relative population stability after a long period of instability.

In the analysis of Rosenthal and Kerchner(1944), to which reference was made on page 37, there was an absolute increase in the incidence of early syphilis in New York City

for/....

for the years 1940 - 1943. This was presumably related to the influences of World War 11. The age trend was towards a lower median age (males 29.7 to 27.3: females 25.1 to 23.8). In addition, the male : female ratio was 1.99 : 1 in 1940, as compared with 1.84 : 1 in 1943. Thus, in New York in 1943, with the decreased population stability associated with World War 11, the disease tended to be commoner in the young, and to affect a greater proportion of females.

TABLE XXV.

EXTRACT FROM TABLE X11, SHOWING INCIDENCE OF PRIMARY AND SECONDARY SYPHILIS IN THIS SERIES.

DIAGNOSIS	NO. OF CASES			PERCENTAGE OF TOTAL CASES IN SERIES		
	M.	F.	TOTAL	M.	F.	TOTAL
PRIMARY SYPHILIS	19	6	25	9.5	2.9	12.4
SECONDARY SYPHILIS	51	81	132	25.4	40.3	65.7
TOTAL	70	87	157	34.9	43.2	78.1

TABLE XXV1.

THE RELEVANT POPULATION CENSUS FIGURES (BANTU) IN THE LIONS RIVER DISTRICT, MAY 1951.

DISTRIBUTION OF POPULATION	NUMBER AND PERCENTAGE OF TOTAL BANTU POPULATION		
	MALE	FEMALE	TOTAL
RURAL	9811(42.7)	8975(39.1)	18786(81.8%)
URBAN	2522(11.0)	1655(7.3)	4177(18.3%)
TOTAL	12333(53.7)	10630(46.4)	22963(100.0%)

Examination/.....

Examination of Tables XXV and XXVI reveals:-

(1) In this series the incidence of early syphilis, for the period December 1950 - September 1951 (excluding those cases who went elsewhere), was 157 per 23,000 or nearly 7 per 1000. Corrected for a twelve month period, this would be nearly 4 times the peak incidence in the United States of America for the years 1941 - 1949.

(2) The sex ratio is males: females 0.80 : 1, as compared with the 1943 figures in New York of 1.84 : 1. The age median for both males and females was lower than the lowest figures of Rosenthal and Kerchner (males 26.7 as compared with 27.3, and females 23.5 as compared with 23.8).

(3) A reasonable inference is thus that, in the population providing this sample, both socio-economic conditions and population stability must be such as to be conducive to a high morbidity of syphilis. In the article mentioned, Moore makes the observation that in the United States (as in other countries) more than half of recently infected persons do not reach medical attention during the period of maximum infectiousness, which period I presume to be that showing muco-cutaneous lesions. The opposite state of affairs appears to be the case in the Bantu syphilitics of this district - 106 cases out of 157 showed muco-cutaneous lesions.

The antidote offered by Moore is in the form of increased emphasis on case-finding, and on lay and medical education. Case-finding, as has been mentioned is a formidable task in this district, in view of the primitive and undeveloped state of the area. Lay education of the Bantu has barely begun - of the 201 cases, the ages were unknown in 41%, let alone the implications of sexual contact with a syphilitic person.

SOCIO-ECONOMIC/....

SOCIO-ECONOMIC ANALYSIS OF CIRCUMSTANCES OF EACH PATIENT IN THIS SERIES.

The 18 cases of congenital syphilis were not included in this analysis, which was made under the following headings:-

(1) Social stability.

(2) Occupation and wage earnings.

(3) Family life.

(4) Religion.

(5) Standards of education.

(6) Alcohol as a factor in the infection.

(7) Promiscuity and source of disease.

(1) SOCIAL STABILITY.

This was assessed in terms of:-

(a) Birthplace.

(b) Movements since birth.

(c) Present abode, whether rural or urban.

(a) Birthplace.

The information regarding birthplace was available in 179 cases.

TABLE XXVII.

AN ANALYSIS OF CASES ACCORDING TO BIRTHPLACE.

BIRTHPLACE	NUMBER OF CASES			PERCENTAGE OF TOTAL		
	M.	F.	TOTAL	M.	F.	TOTAL
LIONS RIVER DISTRICT	29	60	89	16.2	33.5	49.7
OUTSIDE DISTRICT	51	39	90	28.5	21.8	50.3
TOTAL	80	99	179	44.7	55.3	100.0

TABLE XXVIII/...

TABLE XXVIII.

AN ANALYSIS OF THOSE CASES BORN OUTSIDE THE DISTRICT.

BIRTHPLACE	NUMBER OF CASES			PERCENTAGE OF TOTAL BORN OUTSIDE DISTRICT		
	M.	F.	TOTAL	M.	F.	TOTAL
NATIVE RESERVES	27	14	41	30.0	15.5	45.5
EUROPEAN FARMS	10	16	26	11.1	17.8	28.9
URBAN AREAS	7	2	9	7.8	2.2	10.0
OUTSIDE SOUTH AFRICA	7	7	14	7.8	7.8	15.6
TOTAL	51	39	90	56.7	43.3	100.0

It will be seen from the preceding two tables that :-

(1) The highest incidence (33.5%) occurred in females born in the district.

(2) The next highest was in males born outside the district (28.5%).

(3) The lowest incidence was in males born in the district (16.2%).

(4) The highest incidence in those born outside the district was in males born in Native Reserves (30.0%).

The fact that on the one hand the highest morbidity occurred among locally-born females, whereas the lowest was in locally-born males, is significant. It may be explained by the fact that the men-folk, leaving the district for new pastures, import the disease to their women, whereas the locally-born males live a relatively stable life, and have less tendency to promiscuity. There is, however, another factor in this connection which bears consideration. Early syphilis attacks the younger male adults (32.0% of males with early syphilis fell into the 20 - 24 age group). Migrancy probably reaches its highest ebb in this age group. Therefore, the number of locally-born young males living at their birthplace is correspondingly low.

The/....

The second highest incidence occurring in males born outside the district is likewise significant, particularly when it is noted that by far the greatest percentage of all persons born outside the district were males born on Native Reserves. The stability of such a population group, divorced from its roots, must be lower than the group with locally-sprung roots.

The nationality of the 201 cases in this series were:-

Zulus	177
Basutos	16
Nyasas	2
Xosas	2
Bechuana	1
Swazi	1
Shanga (from Portuguese East Africa)	1
Asiatic	1

(b) Movements since birth.

Information was obtained in 180 cases.

TABLE XXIX.

A CLASSIFICATION OF CASES ACCORDING TO THEIR MOVEMENTS SINCE BIRTH.

MOVEMENTS SINCE BIRTH	MALES		FEMALES		TOTAL
	BORN LOCALLY	OUTSIDE	BORN LOCALLY	OUTSIDE	
LIVING AT BIRTHPLACE	9	-	27	2	38
NOT AT BIRTHPLACE	20	51	34	37	142
TOTAL	29	51	61	39	180

The sample under examination was thus a group of people essentially fluid in their movements, with the males more migrant than the females.

The motive/....

The motive behind the movements was found in the majority to be economic - some came from the Reserves to help support their families, some came to earn "lobolo." Others came for the adventure, and because "it was time they came in-to the towns." In the majority of the females, it was a case of following their men-folk, usually after the latter had broken the new ground.

(c) Present abode, whether rural or urban.

TABLE XXX.

THE INCIDENCE OF SYPHILIS ACCORDING TO URBAN AND RURAL DISTRIBUTION OF CASES.

POPULATION	TOTAL POPULATION			NO. AND PERCENTAGE OF TOTAL POPULATION		
	M.	F.	TOTAL	M.	F.	TOTAL
URBAN	2522	1655	4177	46(0.20%)	38(0.16%)	84(0.36%)
RURAL	9811	8975	18786	34 33(0.14%)	62' 58(0.27%)	96 91(0.41%)
TOTAL	12333	10530	22963	79(0.34%)	96(0.43%)	176(0.77%)

'... 1 Malé lived in the Elandskop Reserve.

'... 1 Female lived in New Hanover, 1 came from the Impendhle Reserve, and two from the Elandskop Reserve. These 5 cases from outside districts are not included in this correlation with the population.

It will be seen that, although the rural population was nearly 4 times the urban male population, the incidence in rural males was less than that in urban males. Although the rural female population was more than 5 times its urban counterpart, the rural incidence was less than twice the urban.

Assuming/....

Assuming that population stability is a factor in the morbidity of syphilis, it seems a reasonable inference that the rural population stability is greater than that of the urban areas. This is substantiated by the low incidence in rural males, as compared with the high incidence in rural females, viewing the latter as contracting the disease from their male counterparts, who fetch the disease from the urban areas during migratory excursions.

(2) OCCUPATION AND WAGE EARNINGS.

(a) Males.

The occupations of the 80 cases reviewed fell under the following headings:-

1. Unemployed (10).
2. Domestic service (12).
3. Industry (36 of whom 21 were employed in the rubber factory).
4. Farm labourers (20).
5. Miscellaneous (2 - 1 policeman and 1 prisoner).

Although the bulk of rural males is employed as farm labour, the incidence was nearly half of those employed in industry. The former all lived in rural areas (census population 9811 - which figure includes children), while the latter all lived in urban areas (census population 2522 - children also included).

Unfortunately, the information of wages earned was collected only half-way through the series. Nevertheless, in 9 farm labourers, the average monthly cash wage was 56/- per month. In 22 industry workers, the average monthly cash wage was 168/6d. per month. The former figure is probably high, as one case included was a tractor-driver earning 120/- per month.

(b) Females/.....

(b) Females.

The occupations of the 100 cases reviewed were grouped as follows:-

1. Housewives (married or concubines of long standing). 48
2. Farm labourers..... 7
3. Domestic servants..... 32
4. Unemployed..... 23

The high incidence among housewives tends to confirm the view that the male counterparts, returning from migratory excursions, are the source of their disease. The high incidence among domestic servants is probably explained by the life led by an average female African domestic servant. She is separated from family control, and usually lives on her own, in her own servants' quarters. She is, in this district at any rate, usually promiscuous. The bulk of the unemployed group (23) were young females, too young to be employed, and too young to be married. They fell mainly into the 15 - 19 age group.

Farm labour offers poor remunerative return to the African female. In 5 out of the 7 cases, the average wage earned was 1/- per working day (so-called "togt" labour). The average wage earning for domestic service in 16 out of the 22 cases with the information available was 37/4d. per month.

(3) FAMILY LIFE.

Information was available under the following headings:-

(a) Marital state.

(b) Pregnancies, children, and illegitimacy.

(c) Separation from family at the time of infection.

(a) Marital state.

Information was obtained in 182 cases.

TABLE XXXI.

A CLASSIFICATION OF CASES ACCORDING TO MARITAL STATE.

MARITAL STATE	NUMBER AND PERCENTAGE OF TOTAL CASES		
	MALE	FEMALE	TOTAL
UNMARRIED	37(20.4%)	53(29.1%)	90(49.55%)
MARRIED	43(23.6%)	49(26.9%)	92(50.5%)
TOTAL	80(44.0%)	102(56.0%)	182(100.0%)

It will be seen that:-

1. The highest incidence occurred in single females(29.1%).
2. Next came married females(26.9%).
3. In the males, the position was reversed -the incidence was slightly higher among the married(23.6%) than the single(20.4%).

Of the unmarried cases, 2 males and 6 females were betrothed, and were awaiting the completion of "lobolo" payment. The males of the partnership had been unfaithful in all cases.

(b) Pregnancies/....

(b) Pregnancies, children, and illegitimacy.

Of the 53 unmarried females:-

1. 30(56.6%) had one or more live children(9 of these 30 were known to have each had one known congenitally infected child).
2. 11 produced one or more children who had died in infancy.
3. 2 cases had had a still-birth.
4. 17 had never been pregnant.
5. 36 had been pregnant (67.9%).

Of the 49 married females:-

1. 34(69.3%) had one or more live children (7 of these 34 had each had one known syphilitic child).
2. 14 produced one or more children who had died in infancy.
3. 6 had one or more still-births.
4. 10 were sterile.
5. 39 had been pregnant (79.6%).

There was thus no significant discrepancy between the pregnancy rate in the unmarried as compared with the married females (67.9%as against 79.6%). This points to sustained promiscuity in the unmarried rather than an occasional sexual adventure.

Of the 145 live children produced by the 102 females under review, 42 were illegitimate (29.0%).

TABLE XXXII/....

TABLE XXXII.

SUMMARY OF INFORMATION OBTAINED REGARDING CHILDBIRTH AND PREGNANCIES IN SINGLE AND MARRIED FEMALES.

	SINGLE FEMALES(53) NO. AND PERCENTAGE OF TOTAL SINGLE	MARRIED FEMALES(49) NO. AND PERCENTAGE OF TOTAL MARRIED
ONE OR MORE LIVE CHILDREN	30(56.6%)	34(69.3%)
ONE OR MORE CHILDREN DEAD IN INFANCY	11(20.7%)	14(28.6%)
ONE OR MORE STILL-BIRTHS	2(3.8%)	6(12.3%)
NO HISTORY OF PREGNANCY	17(32.1%)	10(20.4%)
ONE OR MORE PREGNANCIES	36(67.9%)	39(79.6%)

(c) Separation from family at time of infection.

Information was obtained from 181 cases. Separation in married cases was taken as from the marital partner; in single cases it was as from the family.

TABLE XXXIII.

COMPARATIVE FIGURES SHOWING DEGREE OF SEPARATION FROM FAMILY AT THE TIME OF INFECTION.

AT TIME OF INFECTION	NO. AND PERCENTAGE OF TOTAL CASES		
	MALE	FEMALE	TOTAL
SEPARATED FROM FAMILY	59(32.60%)	29(16.03%)	88(48.63%)
NOT SEPARATED FROM FAMILY	21(11.60%)	72(39.77%)	93(51.37%)
TOTAL	80(44.20%)	101(55.80%)	181(100.0%)

It will be seen/...

It will be seen that the number of male cases separated from home at the time of infection was nearly 3 times those who were at home at the time of contraction of the disease. The opposite existed with the females, in whom those at home were about 2½ times those separated from home. The history given by the stay-at-home female, who had contracted syphilis, was in most cases that her husband or lover had returned from town, on a visit, so that he could not be subjected to treatment by the time the female had developed lesions. In addition, in the population as a whole, there is probably a greater proportion of women at home than migrant.

The findings above, however, tend to confirm previous inferences that:-

1. The migrant male is more liable to promiscuity than the stay-at-home.
2. The stay-at-home female probably gets syphilis by importation by migrant males.

(4) RELIGION.

Information was available in 177 cases in this series.

TABLE XXXIV.

CLASSIFICATION ACCORDING TO WHETHER RELIGIOUS BELIEFS WERE PRESENT.

	NUMBER AND PERCENTAGE OF TOTAL		
	MALE	FEMALE	TOTAL
NO RELIGIOUS BELIEF PRESENT	27(15.25%)	15(8.47%)	42(23.72%)
RELIGIOUS BELIEF PRESENT	50(28.25%)	85(48.02%)	135(76.28%)
TOTAL	77(43.50%)	100(56.50%)	177(100.0%)

Of 1402 syphilitic women/....

Of 1402 syphilitic women investigated in San Francisco (Koch and Wuthur - 1944), 84.5% professed a religion. In the group under review, Christianity in the form of sectorial religion does not appear to have made any significant impact on the morbidity of syphilis.

(5) EDUCATION.

Information was obtained in 177 cases.

TABLE XXXV.

STANDARDS OF EDUCATION OF CASES.

EDUCATION STANDARD	NUMBER AND PERCENTAGE OF TOTAL		
	MALE	FEMALE	TOTAL
NO EDUCATION	43(24.30%)	66(37.28%)	109(61.58%)
UP TO 2 YEARS	25(14.12%)	22(12.43%)	47(26.55%)
3 - 6 YEARS	12(6.78%)	9(5.09%)	21(11.87%)'
TOTAL	80(45.20%)	97(54.80%)	177(100.0%)

'...Of these 21 cases, 13 received 3 years' schooling,
4 " 4 " " ,
3 " 5 " " ,
and 1 " 6 " " .

The standards of education in this group of Africans was thus low.

Koch and Wuthur (1944) have made reference to mental intelligence quotients, and concluded that although promiscuity and low mental intelligence were to some degree related, the evidence was not strikingly convincing. A low standard of education must, I feel, contribute to the spread of a disease such as syphilis.

(6) ALCOHOL/.....

(6) ALCOHOL.

In this series, alcohol played a relatively small part in the contraction of syphilis. A definite history was obtainable in 179 cases. 17 males and 2 females (9.5% of the total) gave a history of being under the influence of alcohol at the time of infection.

Koch and Wuthur (1944) reported that it was estimated that 60% of all cases of venereal disease in San Francisco were infected through the media of bars and taverns.

The explanation for the difference in this analysis lies probably in the attitude adopted by the African customarily towards sexual matters. He is perhaps less liable to seek the need of alcohol before he will become promiscuous.

(7) PROMISCUITY AND SOURCE OF THE DISEASE.

This was considered present in the 177 cases reviewed if (a) the patient was unmarried and was suffering from acquired syphilis, or

(b) a married partner had been unfaithful and, as a result, had contracted syphilis.

TABLE XXXVI.

AN ANALYSIS OF CASES ACCORDING TO PROMISCUITY.

MARITAL STATE	NUMBER OF CASES AND PERCENTAGE OF TOTAL					
	PROMISCUOUS			NOT PROMISCUOUS		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
UNMARRIED	36(20.33)	52(29.38)	88(49.71%)	-	-	-
MARRIED	36(20.33)	7(3.95)	43(24.30%)	6(3.4)	40(22.6)	46(26.0%)
TOTAL	72(40.66)	59(33.33)	131(74.02%)	6(3.4)	40(22.6)	46(26.0%)

It will be/.....

It will be seen from Table XXXVI that :-

(1) 131 out of the 177 cases could be classed as promiscuous.

(2) Of the 78 males, 72 were promiscuous, or 92.28%.

(3) Of the 99 females, 59 were promiscuous, or 59.61%.

(4) Of the 88 unmarried cases, 36 (20.33% of the total) were males, and 52 (29.38% of total) were females. It is this latter group of unmarried females whom I sus pect to be one of the main reservoirs of syphilis in this district.

(5) Of the 89 married cases, there were 42 males and 47 females. Of the former, 85.71% were promiscuous, as against only 14.89% of the latter.

From these figures it may be concluded that, in this district, there is a high incidence of promiscuity. They also tend to confirm the previous hypothesis that the rural females (particularly married) contract the disease largely from their male counterparts, who introduce the disease from urban areas.

(b) Source of disease.

The source of the disease was investigated in each individual case, and was divided into 3 categories:-

i. Unknown to thepatient by name (65 cases).

ii. Known to the patient by name (66 cases).

iii. Marital partner (46 cases).

1. Unknown to the patient by name.

In all but two or three cases, the patients were males, who invariably referred to the contact as a casual encounter ("ntombi" - meaning girl). In no case could I elicit any admission of payment being made. Professional prostitution in this district is minimal as a factor in the dissemination of syphilis. A number of cases referred to multiple encounters - one case quoted the estimate of "more than eighty."

11. Known to the patient.

The contact was named by 66 cases. There was a common female contact in one group of 3 males, and similarly in another group of 2 males. Likewise, there was a common male contact in one group of 3 females, and similarly in another group of 2 females. Thus 4 persons (2 females and 2 males) were responsible for the infection of 10 other people.

Reference has been made in the literature to the promiscuous female's being the problem which needed tackling in the control of syphilis (Koch and Wuthur-1944 -"The promiscuous girl has come to be considered as the major source of venereal infection.") Evidence in this analysis points to the promiscuous male as being an equally formidable vector of the disease, certainly as far as the Bantu is concerned.

Apart from the basic factors of population stability and socio-economic conditions, cognisance must be taken of the attitude towards sexual matters held by the average African male. In my experience, he is far less prepared to sublimate his sexual urges than his European counterpart, and in fact does not see the object.

Traditional sex behaviour in the unmarried plays its part in the spread of the disease. This is borne out by the fact that 3 females in this series were found to have contracted the disease as a direct result of indulging in "soma" - external intercourse with no introitus. All 3 cases had intact hymens, and all 3 cases had extragenital chancres of the left inner thigh.

111. Marital partner.

The marital partner was named by 46 cases as the source of the disease. In some cases, with the marital partner available, this was corroborated clinically by establishing an infection of longer standing in the partner.

Polygamy/....

Polygamy was responsible for the infection of 2 wives of 1 husband on two occasions in this series. Both these husbands had contracted the disease from casual encounters. Thus, cultural considerations again entered into the spread of the disease.

The preceding details were collected with a minimum of duress. The patients were extremely co-operative, and showed little or no inhibition in disclosing information. One cannot fail to be impressed by the fatalistic attitude shown by the Bantu syphilitic patient.

ANALYSIS OF SEROLOGICAL SURVEYS.

Reference will be made to three surveys in this district, in all of which the Wasserman test was used. The surveys were :-

1. The Nottingham Road Health Centre survey.
2. The Local Health Commission survey in Howick West.
3. A survey of unselected material in the South African Rubber Manufacturing Company, Howick.

1. The Nottingham Road Health Centre Survey.

(Acknowledgement is made to Dr. P. Woods for permission to use this information).

Two surveys were conducted during the period July 1948 - June 1949. The first was an examination of 473 specimens of blood from Bantu patients in a rural town and its immediate environs (Nottingham Road). The percentage giving a positive reaction was 17.12%.

The second was an examination of 818 specimens of blood from Bantu patients distributed over a wider area, with Nottingham Road as its centre. This survey included actual cases of syphilis detected clinically. The percentage giving a positive reaction was 20.41%.

2. The Local Health Commission Survey in Howick West.

(Acknowledgement is made to Dr.Mackenzie for permission to use this information).

Blood examinations were made in the course of ante-natal examinations of pregnant females (mainly Africans) since July 1, 1950.

The percentage giving a positive reaction in 178 specimens of blood was 23.03%.

This area/....

This area is essentially one where living conditions are of a low standard. Poverty, overcrowding, crime and drunkenness are rife. The Local Health Commission, recently formed on a provincial basis with a view to instituting control over "black-belts" (African slum areas), took over in 1950.

The history of Howick West is relevant in gaining a perspective on the general socio-economic problems of the urban Bantu. In 1938 a group of Europeans formed a syndicate and purchased the area, now known as Howick West, from a local farmer. They divided it into 5 acre lots, and sold these lots to Asiatics, who may own land whereas the African may not. These Asiatics then allowed migrant Africans (mainly employed in the Rubber Factory of Howick) to build their own houses in a haphazard manner on the individual holdings. These Africans were required to pay rentals to the Asiatics. It is generally recognised that Howick West would not have been in existence, had it not been for the presence of the Rubber Factory. By law, an industry in this country is not required to provide housing for its African employees, except in certain instances, in the form of single-quarter barracks. Hence the problem of the shanty-town has become a major consideration to every urban and peri-urban area in South Africa, where industry has arisen.

In this series, there were 21 cases who were inhabitants of Howick West. They all paid rentals to Asiatics, varying between 10/- and 20/- per month.

PHOTOGRAPH 32. A HOWICK WEST SCENE.

3. Survey of Unselected Material in the South African Rubber Manufacturing Company. Howick.

It was decided to examine the bloods of approximately 200 unselected employees (Bantu) in the above organisation. In addition, it was decided to obtain from this group as a whole, irrespective of the serological results, sufficient information as to social circumstancesto constitute a pilot survey for comparison with theseries of cases presented in preceding pages.

199 specimens of blood were taken on 1/10/51. The subjects were not volunteers, but were picked at random from the various departments. 31 (15.58%) gave a positive Wasserman reaction.

Of the 199 subjects, 192 were interrogated as to:-

(1) Social stability.

(2) Occupation and wage earnings.

(3) Family life.

(4) Education.

A positive Wasserman reaction may indicate a previous syphilitic infection, which could, however, have been contracted under circumstances not necessarily reflected by the information obtained in this interrogation.

(1) SOCIAL STABILITY.

This was assessed in terms of :-

a. Birthplace, and

b. Present abode.

a. Birthplace.

75 cases were born in the Lions River District, and 117 were born outside the district.

This gives/....

This gives a ratio of men born in the district to those born outside the district of 1 : 1.56. Of the 80 cases of syphilis occurring in males, analysed in Table XXVII, the ratio was 1 : 1.76. Thus in both groups, more men were born outside the district than in the district. This observation serves to illustrate the essentially migrant nature of the male Bantu in this district.

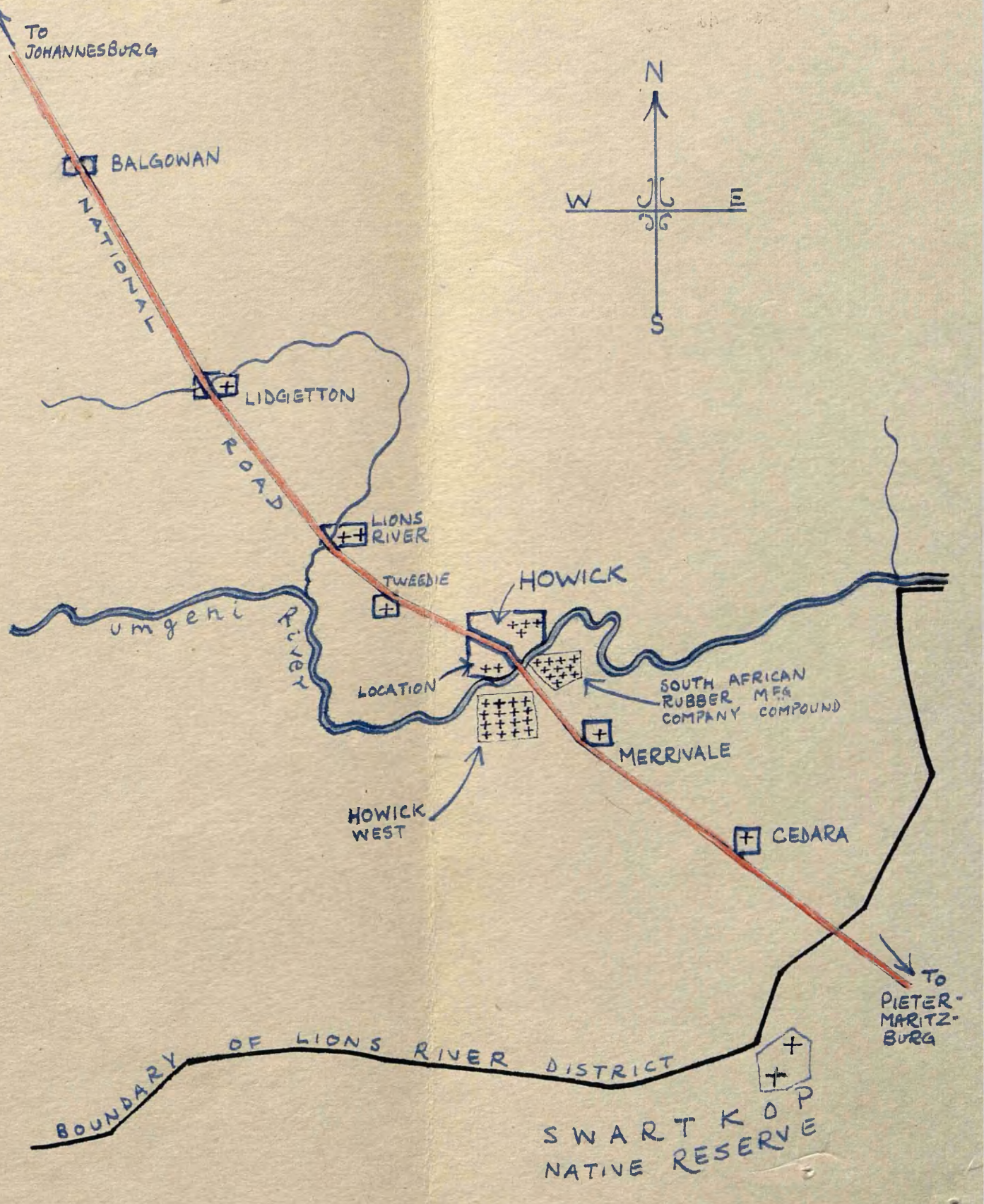
b. Present Abode.

As would be expected, the majority were living (while at work) in urban areas. There were 5 living in rural areas, and travelling some distance to work. The map shows the distribution of the remaining 187 workmen. It will be seen that 58 were living in the Rubber Factory's compound (a type of barracks, in which the workmen live apart from their families). A further 7 were living in the Howick Native Village, which has a population of 346, and where the Africans live with their families under conditions far superior to any other housing conditions in the district, as far as the African is concerned; the village was built by the Howick local authority, which maintains control. The remaining 122 workmen were living in slum dwellings. By far the greatest concentration (83) of the latter were gathered in Howick West.

Of the 31 positive results, 3 (of 58) lived at the compound; 18 (of 83) were resident at Howick West.

MAP/.....

MAP OF THE DISTRICT SHOWING THE DISTRIBUTION OF LIVING QUARTERS OF 187 EMPLOYEES OF THE RUBBER FACTORY; HOWICK.



(2) OCCUPATION AND WAGE EARNINGS.

There were 79 labourers (unskilled), and 113 operatives (semi-skilled). In the majority of instances, the operatives received higher wages. The average wage paid to labourers was 37/6d. per week, and to operatives 46/5d. per week.

Among the labouring class, the rate of positive Wasserman reaction was 15.19%, as against 16.82% in the operative group.

Koch (1944) showed that the incidence of syphilis in an analysis of 7147 workers in San Francisco decreased with the increase in employment stability. It must be re-iterated that positive serological reactions cannot truly reflect the incidence of syphilis in a community, particularly in such a society as that of the Bantu of to-day, which is undergoing such radical change. The figures from this small group are seemingly at variance with Koch's findings. It is possible that there are other factors besides employment stability. For example, the longer an African employee stays with the South African Rubber Company, the greater his chances are of being promoted from the labouring group to the operative group. Assuming that the factors of migrant labour apply equally to these two groups of employment, the operative employee, by virtue of being longer separated from his family, has a greater chance of contracting syphilis.

The average wage earned by the 31 positive cases was 47/4d., which was higher than the average wage earned by operatives (46/5d.). Generally speaking, the longer an African employee is engaged by the Rubber Company, the higher will be his wage. This tends to bear out the previous hypothesis that the salient factor in positive blood incidence in the urban Bantu of this district is more a question of length of time of employment (and separation from family) than increased employment stability.

(3) FAMILY/....

(3) Family Life.

Information was available under the following headings:-

a. Marital state, and

b. Separation from home (wife in married cases, and family in single cases).

a. Marital State.

There were 124 married men and 68 single men. The incidence of positive Wasserman reactions among married men was 19.36%, as against 10.29% among single men.

Reference to Table XXXVI shows that 85.71% of 42 married males with syphilis had been unfaithful to their wives in contracting the disease.

The high incidence of positivity among married men as compared with single men may be partially explained by the fact that they will undoubtedly be older, and thus have had a longer period in which to be exposed to the chances of contracting syphilis. By virtue of being accustomed to living a full sex life, however, they may be more liable to promiscuity when separated from their wives.

b. Separation from Home.

TABLE XXXVII.

THE DEGREE OF SEPARATION FROM HOME IN 192 EMPLOYEES OF THE SOUTH AFRICAN RUBBER COMPANY.

	SINGLE	MARRIED	TOTAL
SEPARATED FROM FAMILY	52	70	122
NOT SEPARATED FROM FAMILY	16	54	70
TOTAL	68	124	192

It has been/....

It has been previously mentioned that the general tendency among the Bantu is for the male member of a marital partnership to migrate to the urban districts, consolidate his position, and later be joined by his wife and family. As is evidenced by the above table, it will be seen, however, that the incidence of separation is still high among married men.

(4) EDUCATION.

TABLE XXXVIII.

STANDARDS OF EDUCATION IN 192 EMPLOYEES OF THE SOUTH AFRICAN RUBBER COMPANY.

EDUCATION IN YEARS	NUMBER OF EMPLOYEES
NIL	105
1	25
2	20
3	11
4	12
5	5
6	6
7	6
8	1
9	-
10	1

It will be seen that 173 cases (90.10%) received 4 years' schooling or less. All the positive cases fell in this group.

O'Malley and Wilson (1949), in a Wasserman survey of 1000 subjects in a Cape Native Township, found a 7.4% positive rate. The figures of these three surveys indicate a high degree of "syphilization" of the Bantu population of this district.

CHAPTER V.

CONCLUSIONS.

Under this heading are :

A. The conclusions from work done in the survey of clinical material.

B. The conclusions from work done in the social survey.

C. A general discussion arising from the study as a whole.

A. CONCLUSIONS FROM WORK DONE IN THE SURVEY OF CLINICAL MATERIAL.

(1) Syphilis, an acute infectious disease.

The impact of syphilis on the Bantu population of this district has been essentially that of an acute infectious disease. It has been shown that :

(a) An estimate of the annual incidence (based on a 9 months' analysis of cases in this series) shows that the incidence of early syphilis is at least four times the peak annual incidence in the United States of America for the period 1941-1949.

(b) 157 cases (78·1% of all cases in the series) were under the category of early syphilis (on the same basis as Moore's classification in his analysis of United States figures for 1941-1949). A further 18 cases of congenital syphilis occurred, all except one of whom, had muco-cutaneous lesions. Thus, in an unselected sample of 198 cases of syphilis, 123 presented with highly infectious syphilitic lesions. This was 62.12% of the total cases of syphilis encountered.

(2) Median ages and sex ratio.

The low median ages and the reversal of the sex ratio in early syphilis, as compared with Rosenthal and Kerchner's figures, appear to be a gauge of the high degree of morbidity of the disease.

(3) Racial and cultural influences.

Special features emanating from the survey of clinical material, which could be attributed to racial and cultural considerations, were:

(a) The relatively low incidence of primary syphilis (25 cases) as compared with secondary syphilis (132 cases).

This appears to be due to ignorance, and the apparent indifference of the Bantu to the presence of sores on the genitalia.

(b) The high incidence of multiplicity of chancres in males (40%).

This could be attributed to the high incidence of phimosis present in African males, and the absence of circumcision as a practice.

(c) The absence of extra-genital chancres of the mouth region.

Mouth lesions were detected in 19·6% of cases of secondary syphilis. This absence of chancres in the mouth region is thus probably explained by the fact that kissing is not practised by the Bantu.

(d) The occurrence of 3 extra-genital chancres of the inner thigh in females as a result of the traditional "soma" or external intercourse.

(e) The relative infrequency of macular rashes (3.0%).

This was detected in this series only in light-skinned Africans.

(4) The manifestations of late syphilis.

Although the number of cases was small, late syphilis, with its involvement of skin, bone, cardiovascular system, and central nervous system, appeared to follow the customary pattern. No racial differentiation could be drawn. Besides the cases included in this series, three cases of cerebral syphilis (general paralysis of the insane) were certified by me over a parallel period.

I feel that the impact of syphilis on the Bantu must be viewed as of only recent origin, and the incidence of cerebral syphilis will probably become more formidable in future years. Landis and Page (1938) refer to the high incidence of cerebral syphilis in the American negro, and it seems probable that the Bantu will be equally vulnerable.

(5) The manifestations of congenital syphilis.

In this series there were twice as many females (12) as males (6). This confirms my previous impressions. The reason is obscure.

(6) Moist macules in infants.

The appearance of depigmented moist macules was found to be a common feature among African infants with congenital syphilis. (9 out of 16 showed this feature.)

(7) Problems of treatment.

The problem of out-patient treatment of the Bantu was shown to be essentially that of completing a single course of therapy. Of 195 cases treated, 26 were still on treatment. A review of the remaining 169 showed that 45% defaulted before the completion of 1 course. Of these 169, 113 were treated with arsenic and bismuth, and only 5 of these completed 2 courses of treatment. Thus, arsenic and bismuth per se, as a regime of treatment in the Bantu, will, on the basis of these figures, be abandoned before the completion of 2 courses by 108 in every 113 started on it (95.57%).

Penicillin, on the other hand, with its 85·5% chance of success in early syphilis (Willcox 1951), was abandoned by only 30·8% of cases started on it.

The choice of out-patient therapy for the Bantu is therefore obvious.

B. CONCLUSIONS FROM WORK DONE IN THE SURVEY OF SOCIAL FACTORS.

It has been shown that syphilis has become increasingly prevalent in the Bantu of this district over the past 25 years. 12 cases occurred in 1925, and 198 were found in 9 months of 1951.

(1) Analysis of birthplace.

The highest female incidence was in those born in the district, and the highest male incidence was in those born outside the district. Of these latter, the greatest number were migrants from the Native Reserves.

(2) Migrancy.

Of 180 cases 142 had migrated from their birthplace. Of the 38 remaining, only 9 were males. The group of cases reviewed were thus essentially migrants.

(3) Rural - urban differences in incidence.

In proportion to population, the incidence of syphilis in urban areas was found to be much greater than in the rural areas.

(4) Separation from home at the time of infection.

In 181 cases of syphilis, the males separated from home were nearly three times those not separated from home. The females separated from home, on the other hand, were just more than a third of those not separated from home.

(5) Marital state.

In the review of 182 cases according to marital state, it was found in males that slightly more cases occurred in the married group, whereas in the females, slightly more cases occurred in the single group.

(6) Promiscuity.

Among married males was high, and among married females was low.

(7) Sectorial religion

Appeared to make little or no impression on the morbidity of syphilis.

(8) Alcohol

Played but a small part in the spread of syphilis in the group of cases reviewed.

(9) Occupation and Wage earnings.

The avenues of occupation open to the majority of Bantu in this district are limited to unskilled labour on the farms on the one hand, and unskilled and semiskilled labour in industry on the other. The cash wages of the former are considerably lower than the latter, providing the necessary motivating factor to migrancy.

(10) Illegitimacy.

The degree of illegitimacy among children of the female cases is an index of the instability of the population sample reviewed.

(11) Contact tracing.

Produced 4 people (2 males and 2 females) as common contacts in 10 other cases of syphilis.

(12) Education.

Standards of education in the group studied were low.

(13) The analysis of the group of 199 employees of South African Rubber Company.

This analysis corroborated the previous conclusions that:

(a) The African is essentially migratory;

(b) His family life is greatly disrupted by this migratory process, and separation from his family greatly increases his chances of contracting syphilis; and

(c) his standards of education are low.

(14) The three Wasserman reaction surveys.

These show that the overall positive blood incidence in the Lions River District varied between 15·58% and 23·03%.

C. GENERAL DISCUSSION ARISING FROM THE STUDY AS A WHOLE.

Usilton et al (1945) attach great importance to cultural patterns as a factor determining the prevalence of syphilis. They also conclude :

"There is no doubt that the prevalence of syphilis varies with the social and economic status of the population examined."

Reference has been made in the historical survey of this thesis to the cultural patterns of the Bantu, and subsequent pages have shown that the prevalence of syphilis has made wide variations from one pattern to another.

Two features emerge as characteristic of the Bantu people under review. Firstly, the population is one which is undergoing radical change as a result of impact with Western influence. Secondly, they are seen as two camps, the one the rural population, and the other the urban population. These two camps are bridged by the process of migrant labour, tending always to be urban - wards.

The incidence of syphilis has been shown to be much higher in urban areas than in rural. The disease appears to be making its attack on the rural areas via the bridge of migrant labour, with the males being the main vectors.

Lack of family relations, as referred to by Wittkower (1948), undoubtedly plays a prominent role in the development of promiscuity, which in turn results in the spread of syphilis.

Ignorance of the fundamental infectiousness of syphilis also contributes to the spread of the disease. Mass education will undoubtedly contribute to the control of the disease.

The main solution, however, appears to lie in the development of increased population stability.

The erection of large - scale housing schemes in the urban areas seems to be the initial step required. This should go far in combating the migrant labour process.

Improvement in socio-economic conditions of the rural areas, with added incentive to the rural Bantu to stay on the land, is equally important.

In the establishment of such stable rural and urban communities, with normal family life, lies, I feel, the answer to the problem of syphilis in the Bantu.

CHAPTER VI.

SUMMARY.

A study of the history of the Zulu and his racial and cultural background has been made.

A series of 198 cases of syphilis, and 3 cases of chancroid were collected consecutively over the period December 1950 - September 1951. These were analysed from the clinical and social viewpoint.

In addition, certain serological surveys were reviewed, in one of which a social survey was conducted.

The inference was made that low social stability was the main factor in producing a high prevalence of syphilis in the population reviewed.

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