

Hard covers supplied.

PUBLICATIONS OF THE
SOUTH AFRICAN INSTITUTE FOR MEDICAL RESEARCH—
No. XXX (Vol. V.)

TUBERCULOSIS IN SOUTH AFRICAN NATIVES
WITH SPECIAL REFERENCE TO THE
DISEASE AMONGST THE MINE
LABOURERS ON THE
WITWATERSRAND

*(Being the Report of the Tuberculosis Research Committee,
originally established by the Transvaal Chamber of Mines
and later expanded into a Joint Committee by incorporation
of representatives of the Union Government).*

9705/19 V.I.

CORRIGENDA.

- p. 78, line 26, for "occasiona" read "occasional."
- p. 107, line 39, for "tuccess" read "success."
- p. 107, line 41, for "she" read "the."
- p. 111, line 43, for "Non-recuited" read "Non-recruited."
- p. 161, line 5, for "ate" read "are."
- p. 181, last line, for "137 and 138" read "146 and 147."
- p. 244, line 8, for "coatal" read "coastal."
- p. 402, line 53, for "caseting" read "caseating."
- p. 413, line 20, for "(p. 000)" read "(p. 410)."

ADDENDUM.

On page 105 reference is made to the "follow-up" of tuberculin-tested cases, and to the possibility of information being forthcoming at the end of 1931. This additional information is as follows:—The work of the Tuberculin Sub-committee ceased at the end of 1930, but by the courtesy of certain Mine Medical Officers, 100 cases have been notified which arose in the tuberculin-test group during 1931. This supplemental return does not pretend to be a complete return for 1931, but 100 cases are a sufficient number to justify a brief analysis.

Of the hundred cases 32 arose in negative reactors and 68 in positive reactors.

Negative reactors.—All cases arose in subjects tested subsequent to June, 1929. There were twelve cases from the group tested between July and December, 1929, and twenty cases from the group tested between January and September, 1930. There were approximately 16,000 subjects who yielded a negative reaction from the groups tested between January, 1928, and June, 1929; only a small minority of these will have been on the mines during 1931, but not a single case is notified from this minority. Apparently, if a negative reactor does not go down during his present contract he is unlikely to go down later.

Positive reactors.—Of the 68 cases arising among the positive reactors, 11 had been tested during 1928, 19 during 1929, and 38 during 1930. It appears that positive reactors who renew their contracts and stay on the mines retain their susceptibility to tuberculosis.

Strongly positive reactions and susceptibility.—There were 436 cases of strongly positive reactions to dilutions of one in a million and one in ten million. These cases were tested between November, 1929, and June, 1930. By the end of 1931 the number of cases recorded from this group was 14, or a rate of over 3,200 per 100,000. This rate is very high and suggests that strongly positive reaction to an intra-dermal test with high dilutions of old tuberculin is associated with special susceptibility to tuberculosis. It may be mentioned that the one in ten million group has shown no greater susceptibility than the one in a million group in so far as strongly positive reactors are concerned. On the other hand, the susceptibility of those strongly positive to a dilution of one in a million, or, over, is getting on for three times as great as that among those strongly positive to a dilution of one in a hundred thousand, or less.

TUBERCULOSIS RESEARCH COMMITTEE.

LIST OF MEMBERS.

Chairman :

Sir SPENCER LISTER,

Director, South African Institute for Medical Research.

Representatives of the Union Government :

Dr. J. ALEXANDER MITCHELL, Secretary for Public Health and Chief Health Officer, Department of Public Health.

Dr. L. G. IRVINE, Chairman, Miners' Phthisis Medical Bureau,

Dr. J. T. DUNSTAN, Commissioner for Mental Disorders.

Major H. S. COOKE, O.B.E., Director of Native Labour, Native Affairs Department.

Dr. W. A. MURRAY, Assistant Health Officer, Department of Public Health.¹

Representatives of the Transvaal Chamber of Mines :

Dr. W. WATKINS-PITCHFORD,²

South African Institute for Medical Research.

Sir SPENCER LISTER,³ do. do.

Dr. J. H. HARVEY PIRIE, do. do.

Dr. A. MAVROGORDATO, do. do.

Dr. G. BUCHANAN,⁴ do. do.

Dr. A. J. ORENSTEIN, C.M.G., Superintendent of Sanitation, Rand Mines, Ltd.

Dr. H. T. H. BUTT, Chief Medical Officer, Randfontein Estates Gold Mining Company, Ltd.⁵

Dr. A. I. GIRDWOOD, Chief Medical Officer, Witwatersrand Native Labour Association.

Dr. A. FREW, Chief Medical Officer, East Rand Proprietary Mines, Ltd.

¹ Alternate to Dr. Mitchell.

² Original Chairman. Resigned through ill-health in May, 1926.

³ Chairman after Dr. Watkins-Pitchford's resignation.

⁴ Alternate to any of the Institute representatives.

⁵ Deceased, 1930, after the main work of the Committee was finished.

Dr. A. BLOOM, M.C., Honorary Visiting Physician, Johannesburg General Hospital.

Dr. A. D. PRINGLE, Superintendent, Miners' Phthisis Sanatorium, Springkell.

Mr. H. M. TABERER, Native Labour Adviser, Transvaal Chamber of Mines.

Sub-Committees :

The Chairman of the Committee an *ex-officio* member of all Sub-Committees.

Clinical : Dr. BLOOM (Convener), Drs. BUTT, FREW, GIRDWOOD, IRVINE and PRINGLE.

Pathological : Dr. HARVEY PIRIE (Convener), Drs. IRVINE and MAVROGORDATO.

Tuberculin : Dr. MAVROGORDATO (Convener), Drs. BUTT, DUNSTAN and GIRDWOOD.

Statistical : Dr. ORENSTEIN (Convener), Drs. IRVINE and MITCHELL, Major COOKE.

Hygiene and Preventive Measures : Dr. MAVROGORDATO (Convener), Drs. BUTT and ORENSTEIN, Mr. B. O. ORPEN⁶ co-opted as representative of Mine Managers' Association.

Transkeian (dealing with the work in the Native Territories) : Major COOKE (Convener), Mr. TABERER, Dr. HARVEY PIRIE.

Publication : Drs. ORENSTEIN, MAVROGORDATO and HARVEY PIRIE.

Adviser and Consultant :

Col. S. LYLE CUMMINS, C.B., C.M.G., M.D.

David Davies Professor of Tuberculosis, Welsh National School of Medicine, Cardiff.

Field Research Officer :

PETER ALLAN, M.D., D.P.H.,

Superintendent, Nelspoort Sanatorium.

⁶ Deceased, 1930, after the main work of the Committee was finished.

CONTENTS

INTRODUCTION

| | PAGE |
|---|------|
| Circumstances in which the Tuberculosis Research Committee came to be formed | 11 |
| Constitution of the Committee | 12 |
| Financial Arrangements | 12 |
| Objects and Scope of the Enquiry | 13 |
| Acknowledgments | 15 |

PART I.

A PRELIMINARY SURVEY OF FACTS BEARING ON TUBERCULOSIS IN SOUTH AFRICAN NATIVES.

Chapter I.—General Considerations.

| | |
|---|----|
| 1. Isolated Communities | 18 |
| 2. The Tuberculosis of Virgin Soil | 18 |
| 3. Intermediate Stages from Isolation towards Agglomeration | 21 |
| 4. Analogy with the Tuberculosis of Infancy and Childhood | 21 |
| 5. Theories suggested to explain Differences in Susceptibility to Tuberculosis | 22 |

Chapter II.—Anthropological and Historical Notes on the Bantu Tribes of South Africa.

| | |
|---------------------------------|----|
| 1. Anthropological Notes | 26 |
| 2. Historical Notes | 31 |

Chapter III.—Reports on Tuberculosis of South African Natives prior to the Present Enquiry.

| | |
|---|----|
| 1. Individual and Non-Official Reports | 38 |
| 2. Official Reports | 45 |
| 3. Reports on Bovine Tuberculosis | 51 |

PART II.

TUBERCULOSIS AS A DISEASE OF THE NATIVE INDUSTRIAL
POPULATION IN SOUTH AFRICA OF TO-DAY.*Chapter I.—The Principal Industries and Occupations in which
Natives are engaged in South Africa.*

| | |
|--|----|
| 1. Mining Industries—Gold, Diamonds, Coal, etc. ... | 55 |
| 2. Agricultural Labour | 57 |
| 3. Commerce, Trade and Domestic Service | 57 |
| 4. Government, Local Authority and Railway Employees | 57 |

Chapter II.—The Gold Mining Industry and Health.

Section A.—The Native Mine Workers.

| | |
|--|----|
| 1. Races and Areas from which Native Miners are obtained | 59 |
| 2. Methods of Recruitment | 59 |
| 3. Contracts and Terms of Service | 60 |
| 4. The Journey to Johannesburg | 61 |
| 5. Repatriation of Natives | 65 |
| 6. Housing Conditions | 65 |
| 7. Feeding | 69 |
| 8. Working Conditions | 71 |

Section B.—Industrial Benefits and Risks in Gold Mining

| | |
|--------------------|----|
| 1. Benefits | 74 |
| 2. Risks | 78 |

Chapter III.—Health Services in the Gold Mining Industry.

Section A.—Health Services on the Mines.

| | |
|--|----|
| 1. The Mine Medical Officers | 80 |
| 2. Mine Hospitals | 81 |
| 3. Transvaal Mine Medical Officers' Association | 82 |
| 4. Hygiene of Mine Compounds | 82 |
| 5. Underground Sanitation | 83 |

Section B.—General Health Services.

| | |
|--|----|
| 1. Witwatersrand Native Labour Association's Hospital ... | 84 |
| (a) Examination of Recruits | 84 |
| (b) Treatment of Invalid "Transfers" from Mine Hospitals | 86 |
| (c) Repatriation | 86 |
| 2. Miners' Phthisis Medical Bureau | 87 |
| Compensation Service for Silicosis and Tuberculosis | 89 |
| 3. South African Institute for Medical Research | 90 |
| (a) Research Services | 90 |
| (b) Routine Bacteriological and Pathological Services | 90 |

Chapter IV.—The Tuberculosis of Native Mine Workers on the Rand.

PAGE

| | |
|--|-----|
| Section A.—Tuberculin Tests | 91 |
| 1. Preliminary Statement of Objects of Enquiry ... | 91 |
| 2. Summary Statement of Outcome of Enquiry ... | 92 |
| 3. Preparatory Work | 93 |
| 4. Distribution of Tuberculous Infection in Mine Natives | 97 |
| 5. Type of After-coming Tuberculosis | 101 |
| 6. Type of Reaction and Special Susceptibility to Infection | 103 |
| 7. Invasion by the Virus and Types of Tuberculosis ... | 105 |
| Section B.—Tuberculosis in the Witwatersrand Native Labour Association's Hospital | 108 |
| 1. Observation Cases | 108 |
| 2. Repatriation of Tuberculous | 109 |
| 3. Length of Survival of Cases dying in the W.N.L.A. Hospital | 109 |
| 4. Post-mortem Examinations | 110 |
| Section C.—Tuberculosis in the Mine Hospitals | 110 |
| 1. Periodical Weighing as a Means towards Early Detection of Cases | 110 |
| 2. Other Methods employed for Early Detection ... | 111 |
| 3. Treatment of Cases | 112 |
| 4. Transfers to the W.N.L.A. Hospital | 112 |
| 5. Length of Survival of Cases dying in Mine Hospitals | 113 |
| 6. Post-mortem Examinations | 113 |
| Section D.—Incidence and Mortality from Tuberculosis on the Rand | 115 |
| 1. Difficulties in compiling Accurate Statistics ... | 115 |
| 2. Age and Duration of Employment Distributions ... | 116 |
| 3. General Trend—all Forms of Tuberculosis | 120 |
| (a) General Statistics | 120 |
| (b) Case Mortality | 121 |
| (c) Comparisons with Tuberculosis Elsewhere and in Other Phthisis-Producing Industries ... | 121 |
| 4. Incidence Rates on Witwatersrand Mines, 1926-1929 | 123 |
| 5. Seasonal Oscillations in the Tuberculosis Incidence Rates | 127 |
| 6. Factors influencing Incidence on Individual Mines | 135 |
| 7. Relation of Incidence to Age | 139 |
| 8. Relation of Incidence to Length of Mining Service ... | 140 |
| 9. Relation of Incidence to Tribal Idiosyncrasy ... | 145 |
| 10. Summary of Statistical Section | 147 |

| | PAGE |
|---|------|
| Section E.—Pathology of Tuberculosis on the Rand ... | 148 |
| 1. Bacteriology | 148 |
| 2. Pathological Anatomy | 153 |
| (a) Acute Tuberculosis | 154 |
| (b) Chronic Tuberculosis (associated with Sili- cosis) | 162 |
| (c) Evidence bearing on Etiology... .. | 170 |
| (d) Radiographic Pathology of the Lungs ... | 174 |
| Section F.—Classification of Clinical Types of Tuberculosis met with in Native Miners on the Rand | 180 |
| <i>Chapter V.—Tuberculosis Survey of the Native Territories.</i> | |
| 1. Introduction | 183 |
| 2. Origin of the Bantu People of the Territories ... | 185 |
| 3. Conditions of Life at the Present Time | 187 |
| 4. Distribution of Tuberculosis as indicated by Tuberculin Tests | 198 |
| 5. Examination of Cases of Tuberculosis in Various Localities : | |
| (a) Transkei | 208 |
| (b) Ciskei | 221 |
| (c) Basutoland | 226 |
| (d) Natal and Zululand | 229 |
| 6. Subsequent Histories of Mine Repatriates | 234 |
| 7. Tuberculosis as a Familial Disease | 240 |
| 8. Spread of Tuberculosis among Natives | 243 |
| 9. Tuberculosis of Natives living in Urban Conditions ... | 246 |
| <i>Chapter VI.—Inferences drawn from the Foregoing Chapters in regard to Tuberculosis in South African Natives.</i> | |
| With Commentary by Professor Lyle Cummins | 249 |
| <i>Chapter VII.—Discussion on Prophylactic Measures now in force or capable of being applied in South Africa.</i> | |
| With Commentary by Professor Lyle Cummins | 280 |
| SUMMARY OF RECOMMENDATIONS BY THE COMMITTEE | 297 |

APPENDICES

| | |
|---|-----|
| 1. Some Anthropological Notes on South African Native Mine Labourers. By the late Dr. G. A. Turner | 302 |
| 2. Some Details of 471 Cases of Tuberculosis that occurred in Tuberculin-tested Boys | 314 |
| 3. Tuberculin Tests on Inmates of Mental Hospitals in the Union. From Data supplied by Dr. J. T. Dunstan ... | 324 |
| 4. Tuberculin Reactions in Native Colliery Workers. From Data supplied by Dr. F. J. Allen | 328 |
| 5. Tuberculosis Prevalence on the Witwatersrand Gold Mines | |
| (1) Comparison of Mine with Mine | 332 |
| (2) Influence of Length of Service on Prevalence ... | 348 |
| By Dr. A. Mavrogordato. | |
| 6. Bacteriological Investigations in connexion with Tuberculosis among South African Natives | 357 |
| (1) Type of Tubercle Bacilli associated with Tuberculosis among South African Natives | 357 |
| (2) Examination of Samples of Mine Air, Dust and Soil, and of Specimens of Sputum collected Underground, for Tubercle Bacilli | 364 |
| By Dr. J. H. Harvey Pirie | |
| 7. Pathological Anatomy of Tuberculosis among Native Mine Labourers on the Witwatersrand. By Drs. J. H. Harvey Pirie and A. Mavrogordato | 374 |
| 8. Classification of Clinical Types of Tuberculosis, from X-ray and Case Records filed at the Miners' Phthisis Medical Bureau. By Dr. L. G. Irvine and Professor Lyle Cummins | 412 |
| 9. Report on the Examination of 500 X-ray Films from "New" Mine Natives. By Professor Lyle Cummins. | 420 |
| 10. Summary of Information received from Various Municipalities regarding the Prevalence of Tuberculosis in Domestic Animals | 422 |
| REFERENCES | 424 |

TUBERCULOSIS IN SOUTH AFRICAN NATIVES WITH SPECIAL REFERENCE TO THE DISEASE AMONGST THE MINE LABOURERS ON THE WITWATERSRAND.

REPORT OF TUBERCULOSIS RESEARCH COMMITTEE.

INTRODUCTION.

CIRCUMSTANCES IN WHICH THE TUBERCULOSIS RESEARCH COMMITTEE CAME TO BE FORMED.

DURING the year 1925 the Transvaal Chamber of Mines, through its Gold Producers' Committee, had under consideration the advisability of instituting an intensive campaign against tuberculosis on the mines within its organization. As a preliminary to the adumbration of a plan to effect this purpose, the Gold Producers' Committee, in April, 1925, addressed a letter to the Director of the South African Institute for Medical Research, Johannesburg, inviting any suggestions or advice that he might care to offer in regard to the whole matter. In the absence of the then Director, Dr. W. Watkins-Pitchford, the letter was replied to by the Editor of this Report, to the effect that the Institute was in full accordance with the proposal and realized the need for investigating the problem of tuberculosis in regard to both the European and Native populations in South Africa. Attention was drawn to two main sections of medical activity into which the problem naturally falls, viz., Public Health and Laboratory Investigation, using both these terms in their widest sense. Upon amplification of the different aspects of the problem that might require investigation, it was suggested that the matter was one for team-work, and it was finally advised that a small Committee be appointed comprising three medical representatives of the Institute and of the Mine Medical Officers' Association respectively, under the Chairmanship of the Director of the Institute. It was foreshadowed that such a Committee would discuss the problem in detail and formulate a programme of research to be taken part in by field workers and clinicians as well as by laboratory workers. As a result of this correspondence and further negotiation, a Committee was appointed on May 4th, 1925, constituted as described above, with the addition of two other medical men who were especially versed in the clinical aspect of tuberculosis, but who were not connected with either of the two organizations previously referred to. This Committee was designated "The Medical Committee on Tuberculosis." In 1926, however, its membership was considerably increased by the addition of both medical and non-medical representatives, and its name was

changed to that of "The Tuberculosis Research Committee." The circumstances that led to these alterations are of considerable importance and merit a brief reference. As the work of the original Committee progressed, it was soon realized that the problem with which it was confronted could not be adequately investigated as a purely local one, confined merely to the Native mine labourers temporarily employed upon the Witwatersrand. This Native labour force is recruited from many regions of Africa and from places geographically separated as widely as the Cape and Mozambique. It was deemed essential to obtain information, by means of a field survey, regarding tuberculosis as it exists in these permanent home areas of the various tribes concerned, and also amongst the large urbanized Native populations resident in what are termed locations, a housing system which is, in effect, a method of domestic segregation of Natives in the larger cities and towns of the Union of South Africa. These, together with the recognition of other unanticipated lines of investigation so extended the scope of the enquiry that wider interests became involved and also heavier commitments in regard to both financial provision and personnel. In due course, the Government of the Union collaborated in the general scheme. This participation was followed by the appointment of Government representatives on the Committee. Further experience disclosed the necessity for appointing a member or members, not necessarily with a medical qualification but possessed of a very particular and intimate knowledge of the native mind, language, history, habits and customs. In conformity with these various circumstances the Committee henceforth termed "The Tuberculosis Research Committee" was constituted as shown on page 3.

The Committee experienced few changes in personnel during its existence, but reference may fittingly be made to the regrettable loss of the valuable services of Dr. W. Watkins-Pitchford, late Director of the Institute and original Chairman of the Committee, who found it necessary to resign in May, 1926, owing to ill-health.

We have to record with regret, also, the deaths of Dr. Butt and Mr. Orpen in 1930. Dr. Butt was a very energetic member and it was extremely fortunate for the Committee that its work was almost finished before his services were lost. Mr. Orpen was not a member of the main Committee but he had been co-opted as a representative of the Mine Managers' Association to serve on the Hygiene and Preventive Measures Sub-Committee.

FINANCIAL ARRANGEMENTS.

The Committee decided upon a plan of investigation to occupy three years, necessitating an annual expenditure of £6,000. This sum was provided in equal proportions of £2,000 per annum each by the Government, the Chamber of Mines and the Natives' Deferred Pay Fund. It was agreed "That the details and control of the survey and investigation, and of the expenditure of the funds for that purpose, be vested in the South African Institute for Medical Research."

THE OBJECTS AND SCOPE OF THE ENQUIRY.

To enable the reader to visualize easily what the Committee had in view, it is desirable to state here, without entering into undue detail, that the main objects of this enquiry were twofold: (1) The extension of knowledge concerning tuberculosis as it occurs in South Africa, and more particularly in its relation to the Native Races; and (2) the diminution of the morbidity and mortality from tuberculosis amongst the European and Native miners in South Africa, most of whom are employed in the gold-mining industry in the Johannesburg area of the Transvaal, known as the Witwatersrand (also frequently referred to as "the Rand"). Although it is possible, then, to summarize in a few words, albeit very broadly, the objects in view, there is greater difficulty in briefly outlining the scope of the enquiry that was considered necessary in attempting their achievement. From the outset it was realized that there was an almost entire lack of precise data regarding all the more important aspects of the problem; it is true that there was available a wealth of data, collected over many years bearing upon all aspects of tuberculosis in Europeans of other lands, and not a little in respect of some other Native races, the Senegalese, for example. This knowledge, however, even where relevant to the particular purpose in hand, could not unquestionably be directly applied to the solution of the problem presented in the case of our Native races, whose circumstances differed so greatly in regard to environment, work, diet and domestic customs. Vital statistics concerning the Native populations of South Africa are non-existent, and at the time of this enquiry the extent of their tubercularization was unknown, the detailed pathology and type or types of the disease had not been closely scrutinized, whilst the relative part played by human and bovine tubercle was merely a matter of speculative opinion. The fate of the large number of Natives who, having developed tuberculosis during their temporary employment on the mines, are constantly being repatriated to their distant homes, was but surmised. The part that these Natives played in spreading the infection amongst their families and others in the kraals was unknown. From a consideration of the circumstances outlined above, it will be gathered that a varied and extensive programme of work became imperative, and not the least urgent necessity appeared to be a field survey of tuberculosis existent in the wide areas of the Native Territories in the Transkei and Ciskei from whence so large a number of Natives are recruited for temporary mine employment. In connexion with this particular investigation the Committee envisaged the carrying out of tuberculin tests, the following-up and subsequent observation of repatriated tuberculous Natives and their families, the collection of historical and statistical information, together with an enquiry into the present customs and economics of the population concerned. In addition to this, there was evidently need of pathological, bacteriological, radiological, statistical and other studies to fill in the lacunae in our knowledge of the local manifestations of this disease.

It was at once obvious that so comprehensive a programme would raise fundamental considerations of an epidemiological nature, and it was considered desirable to obtain the assistance of an overseas specialist in the epidemiology of the disease, to act as adviser and consultant for a period of three years. The Committee was fortunate in securing the services of Professor Lyle Cummins, of the Welsh National School of Medicine, Cardiff, who visited South Africa on three occasions in connexion with these investigations and at other times throughout the whole term of his appointment rendered most valuable advice and assistance by correspondence. It was also realized that the proposed tuberculosis survey of the Native Territories would be a lengthy proceeding and would necessitate the whole-time appointment of a medical man especially qualified to undertake such work. Here again the Committee, through the kind offices of Dr. J. A. Mitchell, Secretary for Public Health of the Union, had the good fortune to be able to arrange for the seconding for three years of Dr. Peter Allan, Superintendent of the Government Tuberculosis Sanatorium at Nelspoort, who had already carried out a similar but less ambitious investigation on behalf of the Public Health Department. The field work carried out by Dr. Allan during these three years forms the basis of Chapter V, Part II, of this Report. Apart from this special field of investigation, almost the whole of the rest of the work was carried out at Johannesburg, and the nature of these studies may be summarized under the following headings: Clinical, pathological, bacteriological, tuberculin tests, statistical, hygiene and preventive measures, and X-ray investigations. Special sub-committees were appointed to deal with these various subjects and to report to the main Committee from time to time.

The constitution of these sub-committees is shown on page 4.

The results of the labours of the various workers concerned are recorded in the Report and in the Appendices thereto and require no further detailed elaboration here. Reflection upon the work and results of this three years' task serves to emphasize the wide boundary to which the domain of tuberculosis research extends. Whilst the Committee has of necessity been obliged to concentrate its resources upon the study of but a mere corner of this terrain, it at all times had particularly in view the necessity for utilizing the opportunities here presented for investigating at first hand the special problems associated with tuberculosis occurring amongst a relatively primitive race. This race, moreover, by force of circumstances, has been impelled, somewhat precipitately, to change its manner of living from that of a pastoral and warlike people to one of industrialism, associated with increasingly close contact with Europeans and, to some extent, with urbanization. Without knowledge bearing upon the fundamental aspects peculiar to our local problem, it would be unwise to attempt its solution by applying unreservedly a number of the accepted tenets regarding tuberculosis derived from the accumulated experience of this disease as observed in European civilized communities. Thus, an enquiry such as this, dealing with a type of population so unusual, has led to the

collection of extensive data relating to the incidence and infectivity of tuberculosis under these conditions, and to a study of the degree of tuberculization and also of the pathological processes concerned in its production and development in these South African Natives.

The literature contains rather scanty records of observations concerning the tuberculosis of primitive races. For this reason, and also to allow those especially interested in this problem the opportunity of examining in detail the data upon which the arguments and conclusions in the body of the Report are based, it has been thought desirable to include as appendices a number of reports by the Committee's individual workers. Attention may here be drawn to the personal commentary by Professor Lyle Cummins in Chapters VI and VII, written at the request of the Committee. It was considered that such a commentary would have a particular value as coming from one not only pre-eminent in this subject but whose thoughts and judgment might possibly be presented from a point of view not easily seen in its entirety by those whose views, owing to long residence in South Africa, might be stamped with a certain conservatism where any measures tending to the advancement of the Natives races are under discussion.

In conclusion, there is another aspect of this research which very deservedly merits recognition :—Reference is made to the enthusiastic and generous collaboration and assistance from many outside sources. It is quite impossible to express appreciation to everyone concerned individually, but the Committee desires to record its indebtedness to Mr. W. Gemmill, General Manager of the Transvaal Chamber of Mines, for his energetic and wise helpfulness on innumerable occasions, and to a number of members of the staffs of the Native Recruiting Corporation and the Witwatersrand Native Labour Association, for assistance in connexion with the investigations in the Native Territories and in Portuguese East Africa ; to the Public Health Department for services rendered through the Secretary for Public Health, Dr. J. A. Mitchell ; to Dr. Park Ross of that Department for arranging the tour through Zululand undertaken by a member of the Committee ; The Mine Medical Officers' Association, whose members were at all times most helpful in fulfilling the numerous requests made of them in furtherance of clinical and statistical enquiries ; the Medical Officers and Staff of the Witwatersrand Native Labour Association Hospital for assistance in connexion with radiological examinations and tuberculin tests carried out at that Institution ; the staffs of the various mental institutions throughout the Union under the direction of Dr. Dunstan for the collection of much useful data and who, in addition, carried out tuberculin tests and in some instances prophylactic inoculations of B.C.G. vaccine ; the Public Health Department at Lourenço Marques, whose Chief Officer, Dr. Ferreira dos Santos, arranged a personally-conducted tour through Portuguese East Africa for Professor Lyle Cummins, Dr. Mavrogordato and Mr. Taberer, enabling them to see, under the most pleasant auspices, a great deal relating to the public health service amongst the East Coast Natives ; to Drs. L. Bostock and Pinto Coelho, who, with the concurrence of the Portuguese Authorities, arranged for

the tuberculin testing of some seventy thousand Natives at Ressano Garcia, prior to their departure for Johannesburg on mining employment ; to the Medical Research Council of Great Britain, which was instrumental in providing information of a most useful character ; to Sir Walter Fletcher for his sympathetic readiness to help whenever called upon in connexion with enquiries overseas ; to Professor A. V. Hill, of University College, London, and his assistants, for the construction of an electrical thermometer designed to record rapidly the temperatures of large groups of people, according to a plan suggested by a member of the Committee ; to Dr. Stanley Griffith for kindly studying, for the purpose of confirmation, a number of strains of acid-fast bacilli in connexion with Dr. Harvey Pirie's investigations of the relative prevalence of human and bovine tuberculosis in South African Natives ; to Dr. Roodhouse Gloyne for recording on special forms the results of a long series of post-mortems performed on tuberculotics at the Victoria Park Hospital, London, and which were used for comparison with the local post-mortem findings in Native mine workers ; to Dr. W. Steuart for valued assistance and advice in connexion with the radioscopic examination of Natives' chests ; to Drs. N. Macvicar and F. S. Drewe, Medical Officers of the Victoria Hospital, Lovedale, and of the Holy Cross Mission, Pondoland, respectively, for valuable information resulting from their wide experience in medical work carried on amongst the Native population at these two mission stations over many years ; to Dr. F. Allen for carrying out and recording the results of a number of tuberculin tests on Natives employed at the Witbank Colliery ; to Mr. F. Brownlow, Magistrate at Butterworth (Transkei), for his kindly hospitality to members of the Committee during their visit to his district, and for placing at their disposal his wide knowledge of the past and present circumstances of the Native races ; to Mr. C. C. Frye, Manager of the South African Explosives and Industries, Ltd., for making available all necessary facilities for a visit of inspection by members of the Committee to the two factories under his control at Somerset West (Cape Province) and at Umbogintwini (Natal).

Collection Number: AD1715

SOUTH AFRICAN INSTITUTE OF RACE RELATIONS (SAIRR), 1892-1974

PUBLISHER:

Collection Funder:- Atlantic Philanthropies Foundation

Publisher:- Historical Papers Research Archive

Location:- Johannesburg

©2013

LEGAL NOTICES:

Copyright Notice: All materials on the Historical Papers website are protected by South African copyright law and may not be reproduced, distributed, transmitted, displayed, or otherwise published in any format, without the prior written permission of the copyright owner.

Disclaimer and Terms of Use: Provided that you maintain all copyright and other notices contained therein, you may download material (one machine readable copy and one print copy per page) for your personal and/or educational non-commercial use only.

People using these records relating to the archives of Historical Papers, The Library, University of the Witwatersrand, Johannesburg, are reminded that such records sometimes contain material which is uncorroborated, inaccurate, distorted or untrue. While these digital records are true facsimiles of paper documents and the information contained herein is obtained from sources believed to be accurate and reliable, Historical Papers, University of the Witwatersrand has not independently verified their content. Consequently, the University is not responsible for any errors or omissions and excludes any and all liability for any errors in or omissions from the information on the website or any related information on third party websites accessible from this website.

This document forms part of the archive of the South African Institute of Race Relations (SAIRR), held at the Historical Papers Research Archive at The University of the Witwatersrand, Johannesburg, South Africa.