

# **Report of the Committee of Management and Medical Director : 1945 / Papworth Village Settlement.**

## **Contributors**

Papworth Village Settlement (Cambridge, England)  
Papworth Hall Tuberculosis Colony (Cambridge, England)

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THE PAPWORTH VILLAGE SETTLEMENT

Registered Office: PAPWORTH HALL, CAMBRIDGE.

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REPORT  
OF THE  
COMMITTEE OF MANAGEMENT  
AND  
MEDICAL DIRECTOR  
FOR  
1945

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PRESENTED AT THE TWENTY-NINTH ANNUAL GENERAL  
MEETING OF THE SETTLEMENT, DECEMBER 18TH, 1946

## THE PAPWORTH MEDICAL COMMITTEES.

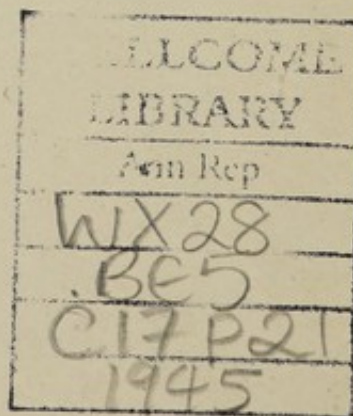
### MEDICAL CONSULTATIVE COMMITTEE

\*Air-Commodore R. R. Trail, M.C., M.A., M.D., F.R.C.P., *Medical Director (Chairman)*  
F. R. G. Heaf, Esq., M.D., M.R.C.P. Sir Arthur MacNalty, K.C.B., M.D., F.R.C.P.,  
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Professor O. L. V. de Wesselow, D.M.,  
B.Ch., F.R.C.P.

\* denotes Member of Committee of Management.



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# PAPWORTH VILLAGE SETTLEMENT

NEAR

(INCORPORATED)

CAMBRIDGE

[Founder and first Medical Director : The late SIR PENDRILL VARRIER-JONES, F.R.C.P.]

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HER MAJESTY QUEEN MARY

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THE RT. HON. THE EARL OF HAREWOOD, K.G.

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1934-1942 : HIS ROYAL HIGHNESS THE DUKE OF KENT, K.G. (killed on Active Service, 1942).

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### Hon. Psychologist:

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### Hon. Thoracic Surgeon:

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### Hon. Consulting Surgeons:

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Air Vice-Marshal Geoffrey Keynes, M.D., F.R.C.S.

H. B. Roderick, Esq., O.B.E., M.D., M.Ch., F.R.C.S., D.P.H.

J. S. Paterson Ross, Esq., M.S., F.R.C.S.

### Hon. Consulting Laryngologist:

A. S. H. Walford, Esq., F.R.C.S.

### Hon. Consulting Bacteriologist:

G. S. Graham-Smith, Esq., M.D., F.R.S.

### Hon. Legal Adviser:

Professor P. H. Winfield, LL.D.

### Hon. Gynaecologist:

Oswald Lloyd, Esq., M.D., F.R.C.S., M.R.C.O.G.

### Hon. Orthopaedic Surgeon:

R. Weeden Butler, Esq., M.Ch., M.D., F.R.C.S.

### Hon. Ophthalmic Surgeon:

W. G. Watson, Esq., M.B., Ch.B., D.O.M.S.

### Hon. Dental Surgeon:

W. Baird Grandison, Esq., L.D.S., R.C.S. (Ed.).



## GOVERNORS 1945

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\*Capt. R. G. Briscoe, M.C.  
†J. E. Bidwell, Esq., M.A.  
W. Bulkeley-Evans, Esq., C.B.E., LL.D.  
\*F. Bunnett, Esq.  
\*Mrs. J. F. Cameron  
Miss H. Chivers  
E. Mellish Clark, Esq.  
Mrs. Mellish Clark  
The Viscount Clifden  
Dr. Louis Cobbett  
Miss Courtauld  
The Hon. Lady Darwin

Lady Darwin  
Professor H. R. Dean, M.D.  
Mrs. Marcus Dimsdale  
G. Gollin, Esq., O.B.E.  
Mrs. G. F. C. Gordon  
Mrs. A. V. Hill  
The Viscount Hinchinbrooke, M.P.  
Lady Hope  
Mrs. W. Jenyns  
Dr. J. N. Keynes  
\*Mrs. Keynes  
\*Sir Walter Langdon-Brown, M.D.,  
F.R.C.P.  
The Marchioness of Linlithgow, C.I.

\*G. M. Macfarlane-Grieve, Esq.  
\*Talbot Peel, Esq., M.A.  
The Rt. Hon. the Lord Queen-  
borough, G.B.E.  
Lady Rolleston  
\*The Countess of Sandwich  
Mrs. J. L. Smith  
Mrs. Stewart  
Ashley Tabrum, Esq.  
Mrs. Robert Tritton  
R. S. Whipple, Esq.  
\*I. Winterbottom, Esq.  
A. H. Wooll, Esq.

Alderman W. Brown (Hunts. C.C.) and Dr. Robert Ellis (Cambs. C.C.) are  
co-opted Members of the Committee of Management.

† denotes Chairman of Committee of Management.

\* denotes Member of Committee of Management.

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## EXECUTIVE STAFF 1945.

### MEDICAL DIRECTOR :

R. R. TRAIL, M.C., M.D., F.R.C.P.,

### CHIEF MEDICAL OFFICER:

DONALD MacCALLUM, M.B., Ch.B.

### MATRON:

MISS E. M. ROBINSON, S.R.N.

### SECRETARY-GENERAL:

REYNELL WREFORD

### SECRETARY:

T. C. M. JOHNSON, F.H.A.,

GENERAL MANAGER,  
PAPWORTH INDUSTRIES:  
B. TALLYN

WORKS MANAGER,  
PAPWORTH INDUSTRIES:  
A. GROGAN

### CHIEF ACCOUNTANT:

L. F. PAPE, A.C.A., A.H.A., F.I.A.C.

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## MEDICAL STAFF 1945.

### RESIDENT MEDICAL OFFICER :

L. B. Stott, M.C., J.P., M.B., B.Ch., D.P.H.  
(on active Service)

### RESIDENT SURGICAL OFFICER:

F. L. Wollaston, M.R.C.S., L.R.C.P. (to Sept.)  
VISITING THORACIC SURGEON : (from Nov.)  
O. S. Tubbs, M.A., F.R.C.S., L.R.C.P.

### ASSISTANT MEDICAL OFFICERS:

J. M. Battersby, M.A., M.R.C.S., L.R.C.P.      R. B. Murphy, M.B., Ch.B., B.A.O.  
N. P. W. Littler, M.R.C.S., L.R.C.P., B.Sc.

## RESEARCH STAFF

E. Brieger, M.D.

D. Barron Cruickshank, L.R.C.P. & S. (Edin.), L.D.S. (Edin.), D.P.H. (Camb.)

TECHNICAL ASSISTANT: F. Boot, A.I.M.L.T.

CHAPLAIN: Rev. A. G. McL. Pearce-Higgins.

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### BANKERS:

Barclays Bank, Ltd.  
Cambridge.

### AUDITORS:

Cambridge : Peters, Elworthy & Moore.  
London : Barton, Mayhew & Co.

### REGISTERED OFFICE:

Papworth Hall,  
Cambridge.

### LONDON OFFICE:

16, GROSVENOR PLACE, LONDON, S.W.1.



# REPORT OF THE COMMITTEE OF MANAGEMENT, 1945.

**I**N my capacity as Chairman I have much pleasure in presenting the Report of the Committee of Management for the year 1945.

I am very pleased to be able to report that the work of the Settlement has shown no sign of falling off or deterioration in any branches, the number of patients has remained at a high level and has again included a large number of ex-Service men and women. Full use has been made by local Authorities, both neighbouring and far afield, of the facilities provided for special treatment and for rehabilitation, but the shortage of staff has caused great concern, and for the first time in the history of Papworth the Committee were obliged, to their great regret, to authorize the closure of 20 beds in the Bernhard Baron Hospital for men, a step which unfortunately had the effect of adding to the already long waiting list. The Staff position would have been even more serious had it not been relieved to some extent by the employment of suitable ex-patients on both the nursing and domestic staffs of the institution.

During the year the Committee have been able to inaugurate a Pensions Scheme for the Employees of the Settlement. Whilst the scheme was primarily intended to safeguard the future of the colonists, it has also been possible to include those members of the institution staff who were not eligible for membership of the Hospital Superannuation Scheme. The pre-

miums in respect of past service were met entirely by the Settlement, and the Committee were glad thus to be able to reward the many years of devoted service rendered by the staff.

Despite the restrictions on building, three pairs of cottages have been built and occupied during the year, relieving to some small extent the housing problem of the Settlement which does not grow less. A Zoning Sub-Committee has been appointed to deal with the future expansion of the Settlement, and plans for an extension of the Nelson-Langermann Surgical Hospital have been put in hand.

Through the initiative of some of the colonists, a Youth Association has been formed for the benefit of the young people in the village, and this is already proving itself to be a valuable addition to the aims of the Settlement. The Committee very gladly assisted the new venture by a preliminary grant of £100.

We were greatly honoured by a visit from our President H.R.H. The Princess Royal on May 2nd, when Her Royal Highness visited the hospitals, sanatoria and workshops, and evinced great pleasure at the progress being shown in all departments. On August 28th, Her Majesty Queen Mary also honoured us by paying her fifth visit to Papworth, and we are deeply grateful to Her Majesty for her continued interest.

The Chairman of the Settlement, the Marquess of Linlithgow has maintained his close and intimate interest in all our affairs and developments, and



in addition to visiting Papworth twice during the year, has presided at the London meetings of the Committee.

The Committee suffered a great loss during the year by the retirement (on account of ill health, which we all much regret), of Sir Walter Langdon-Brown, and of Dr. George Salt (on account of pressure of work in Cambridge). Both had rendered signal service to Papworth during the trying war years.

We are again greatly indebted to the Medical Consultative Committee, whose generous help and advice has enabled us to maintain the high level of medical work at Papworth.

The thanks of the Committee are also due to the members of the Honorary and Visiting Staff for their unfailing readiness to assist at all times the resident Medical Staff; to the

Hospital Guild, under the guidance of Mrs. Shore, for the very great help provided to the hospitals during the year, and to our donors and subscribers, whose continued generosity to Papworth is a most encouraging sign for the future.

In conclusion, the Committee desire to place on record their thanks to the Medical Director, Air Commodore R. R. Trail, who, on his release from the Royal Air Force in July, has been able to devote his whole time to the furtherance of the needs of the Settlement, and to the Hospital and Industrial Staffs who have given him loyal support.

J. E. BIDWELL,  
*Chairman.*

August, 1946.



# REPORT OF THE MEDICAL DIRECTOR

I beg to present the Annual Report for the year ended December, 1945.

This year has seen the end of hostilities and is therefore in several ways, medical and industrial, a turning point for Papworth. Like most industrial concerns our workshops must re-accommodate to peace-time production, and there is every appearance that this change-over can be carried out without loss of employment to our Settlers. This will mean less and less numbers of fit workers, for whom we had to make room under the Essential Works Order. We cannot hope to do our best for our own people, however, if the number of fit employees falls below about one-third of the total strength. This is because the ultimate success of our scheme depends on our sales, and sales depend on the finish of the products which compete in the open market. The hardest work, usually of a manual type, goes into the final finish, as in the polishing of leather goods such as brief and attache cases, and this is work which should not, in our opinion, be undertaken by the tuberculous.

On the other hand, we shall now see an increasing proportion of applications for Colonization as against our

experience in the war years. Then men and women could get work easily, for good wages, and without question of their past medical history. The ostracism of the tuberculous in industry was temporarily forgotten. It will return, and with it will come the realization that Papworth can offer advantages for the tuberculous, even on the economic side, over life in ordinary conditions. Trade Union wages, a superannuation scheme, and security of employment are available for every Colonist; for the married Colonist there is the added advantage of a house at a low rent which includes consolidated rates. Security of employment goes beyond the lack of ostracism, for it remains for the Colonist who has to leave his work for breakdown, or because the Medical Officers consider further treatment by modern methods can improve his physical condition.

It is thus we are continuing to improve on the Papworth definition of rehabilitation, which we believe to be three-fold in character—physical, economic and social.

R. R. TRAIL,  
*Medical Director.*



## GENERAL MEDICAL STATISTICS

	Men	Women	Total
Admissions ... ..	287	174	461
Discharges ... ..	305	178	483
Average number of beds occupied daily during the year ... ..	340	156	496
Total number treated during the year ...	636	333	969
Number of Service patients admitted ...	117	6	123

## SURGICAL UNIT

### (THE NELSON-LANGERMANN HOSPITAL)

#### STAFF :

*Hon. Consultant Surgeon :*

*J. B. Hunter, M.C., M.Ch., F.R.C.S.*

*Resident Surgical Officer :*

*F. L. Wollaston, M.R.C.S., L.R.C.P.*

(to Sept., 1945)

*Visiting Thoracic Surgeon :*

*O. S. Tubbs, F.R.C.S. (from Nov., 1945)*

*Hon. Anaesthetist :*

*H. N. Webber, M.R.C.S., L.R.C.P., D.A.*

	Men	Women	Total
Patients admitted direct for surgical treatment	48	70	118

Number of operations performed:  
Major, 71 ; Minor, 256.

#### OPERATIONS, 1945

Divisions of Adhesions ... ..	140
Thoracoplasty ... ..	64
Phrenic Crush ... ..	67
Adhesion Section ... ..	13
Thoracoscopy and Division of Adhesions	16
Thoracoscopy ... ..	4
Bronchoscopy ... ..	4
Removal of wax tubing and insertion of tube ... ..	1
Phrenic Avulsion ... ..	1
Re-introduction of Tube ... ..	1
Single removal of breast ... ..	1
Cavity Drainage ... ..	1
Oesophagoscopy ... ..	1
Catheter inserted ... ..	1
Circumcision ... ..	1
Excision of rectal abscess ... ..	1
Scraping of Sinus (Monaldi) ... ..	1

## REHABILITATION STATISTICS

Patients colonized :	Men	Women	Total
Industries ... ..	17	5	22
Institution ... ..	6	7	13
			<hr/> 35
Number of colonists at 31st December, 1945 :			
Industries ... ..	215	30	245
Institution ... ..	26	44	70
			<hr/> 315

## X-RAY DEPARTMENT

*E. W. Groves, Radiographer.*

At the end of the first full year's work with the new X-ray plant, I am able to report good progress in routine X-ray work, with the plant running smoothly, and nothing approaching a breakdown. There have been few minor adjustments to be made, all within the scope of the personnel, and none necessitating an emergency call to Messrs. Dean & Co. The latter are continuing their quarterly service visits, and I think our immunity from trouble is in part due to their regular attention.

The total number of films exposed exceeds the 1944 total by about 600, and the attendance of individual patients exceeds the 1944 total by about 350.

The demand for tomograms in 1945 greatly exceeded that for a similar period in 1944.

The department continues to deal with a number of applications for X-ray examination of private patients referred by local practitioners ; clinics are held on two days of the week for the benefit of patients referred by Hunts County Council.

During the year, among many who inspected the department, we were honoured with visits from H.R.H. The Princess Royal, Lord and Lady Linlithgow, and Capt. R. Briscoe, the Lord Lieutenant of Cambridgeshire.

The following figures give a detailed analysis of the amount of work undertaken :

#### Bernhard Baron Hospital :

X-ray photographs ... ..	5,610
Electrocardiograms ... ..	22



## Analysis of films taken :

Chests ... ..	4,649
Bronchograms ... ..	21
Pyelograms ... ..	11
Tomograms ... ..	307
Ba Meals and Enemas ... ..	37
Bones and Joints ... ..	437
Obstetric ... ..	14
Dental ... ..	66
Nasal Sinuses ... ..	43
Other Types ... ..	25

## Vaughan X-ray Department, Nelson-Langermann Hospital :

All in-patients ... ..	327
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## Analysis of Categories of Patients X-rayed :

In-patients ... ..	2,612
Adult Villagers ... ..	981
Children of school age normally resident in village ... ..	137
Hospital (Special and General Staff)	330
Patients referred by Hunts C.C. and Local Practitioners ... ..	234
Private Patients ... ..	64
Visitors ... ..	32
Papworth Industries Personnel ... ..	554

## OUT-PATIENTS DEPARTMENT

*Sister E. M. Woods, S.R.N., T.A.*

The Out-Patients' Department of the Settlement is situated in the Bernhard Baron Hospital, and functions in much the same way as a general practitioner's surgery. The Medical Officer sees all ambulant patients, staff and residents in the village, and deals with all minor complaints and injuries, passing on to the special clinics those conditions needing specialist attention.

The Department also administers the Artificial Pneumothorax Clinic for ambulant patients.

Morning Surgery ... ..	3,815
Evening Surgery... ..	2,194
New Cases (including Industrial Cases)	867
Artificial Pneumothorax Refills ... ..	2,655
<b>TOTAL ... ..</b>	<b>9,531</b>

## Dental Clinic

*W. Baird Grandison, L.D.S., R.C.S. (Edin.),  
Dental Surgeon.*

The work of the dental department continues to increase, which tends, one might assume, to indicate the importance of a thorough dental inspection, with treatment where necessary, to Medical Officers who encourage patients to accept treatment, and to patients, both in hospital and in the village, who appear to appreciate the provision made to them by the responsible authorities.

No. of Sessions ... ..	144
„ „ Attendances ... ..	1,310
„ „ Fillings ... ..	491
„ „ Extractions ... ..	582
„ „ Scalings ... ..	191
Teeth treated with Nitrate of Silver and Eugard ... ..	77
Cauterizations or Gum Treatments	169
Dentures supplied ... ..	86
Dentures repaired ... ..	46
Other operations (including Gold Courses, Inlays, Portex Crowns, etc.) ... ..	251

## Physiotherapy Clinic

*Miss C. M. Willis, C.S.P.*

Total number of Treatments ... ..	2,273
30 patients were given heat treatments	
22 „ „ „ U.V.L. „	
64 „ „ „ Massage „	
24 „ „ „ Faradic „	
51 „ „ „ Exercises before and during thoracoplasty stages	
9 patients had general remedial exercises	

## Ophthalmic Clinic

*W. G. Watson, M.B., Ch.B., D.O.M.S.,  
Hon. Ophthalmic Surgeon.*

Dr. Watson holds an ophthalmic clinic at Papworth when required, but also sees urgent cases in Cambridge. This clinic is administered under the scheme of the National Ophthalmic Treatment Board, and functions most satisfactorily.



## General Clinics

We are much indebted to the following members of our Honorary Staff and of the Addenbrooke's Hospital Staff for their kindness in seeing our patients both at Papworth and at Cambridge when occasion arises: Dr. Campbell Canney, Mr. Ghey, Dr. F. B. Parsons, Mr. Vernon Pennell, Mr. A. S. H. Walford and Dr. C. H. Whittle.

## Orthopaedic Clinic

R. Weeden Butler, F.R.C.S., M.Chir.,  
*Hon. Orthopaedic Surgeon.*

Mr. Butler has continued his monthly visits throughout the year, and we are greatly indebted to him for the care and treatment given to our orthopaedic cases.

Total number of Patients seen	...	109
Total number of Attendances	...	195

## Psychological Clinic

H. Banister, M.Sc., Ph.D., *Hon. Psychologist.*

Twenty-one patients, most of whom were suffering from severe psychological disturbances, have received treatment at the psychological clinic during the year.

A number of these patients had been invalided from the services; their war-time experiences combined with the diagnosis of tuberculosis had produced severe strain and anxiety.

The majority of the patients have responded well to treatment with consequent beneficial results in other ways.

## RESEARCH DEPARTMENT

E. M. Brieger, M.D.

### I. BACTERIOLOGY AND PATHOLOGY

#### (1) Life History.

Research into the life history of various strains of mycobact. tb. av. has been continued with the view of studying the genetical relationship between the mycelial actinomycetes-like structures and the bacillary rods. The observations have been made on coverslip

smear cultures. The technical difficulty of promoting active growth in coverslip smears was overcome by placing a small piece of Loewenstein medium in the centre of the coverslip and by adding a drop of fluid medium—3% glycerol egg yolk water or hemolysed blood or Long's medium. By this technique it became possible to follow up the development of mycelia from single elements into micro-colonies of acid-fast rods, and to study the influence of various media combinations. Micro-cinematographic records were made by Dr. Hughes, Strangeways Research Laboratory, Cambridge.

It could also be shown that most intermediate forms which exist belong to the mycelial growth phase and are non-acidfast. They are only demonstrable either by dark-ground observation, or by a combination of the Ziehl-Neelsen with the Nigrosin method. A study of these non-acidfast forms is now being made.

#### (2) Chromatinic Structures.

The study of chromatinic structures in growing tubercle bacilli carried out in co-operation with Dr. Robinow, Strangeways Research Laboratory, was completed. Chromatinic structures were demonstrable by the H.CI/Giemsa method, similar to those described by Robinow in other bacteria. They underwent developmental changes which differed to some extent from those seen in ordinary bacteria. Furthermore, there was no evidence of cell-wall formations as a preliminary to bacterial cell divisions. The filaments resembled multi-nucleate units and no significant difference existed between the chromatinic changes in single filaments compared with those seen in the mycelial structures. These observations suggest the process of reproduction in myco-bacterium Tb. av. differs from that of other bacteria, even though the morphological changes suggest a similar mode of reproduction.

#### (3) Tissue Response.

The joint research with Dr. Honor B. Fell, Director of Strangeways Research Laboratory, Cambridge, on the tissue response and the control of infection by living tissue in tissue culture has been continued. One of the main findings was that a balanced host-parasite relationship is established, with the explant showing normal healthy growth in spite of the virulent infection, while the bacilli, which are largely ingested by macrophages, were inhibited in their multiplication. In spite of the



tissue cells being loaded with virulent bacilli, no anatomical lesions were observed. There was also no indication that the viability of either virulent or non-virulent bacilli was affected by their stay in tissue cells. The viability was tested by drying the cultures and inverting the coverslips on Loewenstein plates (a method described in previous Reports for the demonstration of Tb. in sputum smears). Active growth was observed after three days' incubation at 37°C. with micro-colonies growing from cells.

These observations do not support the general view that tubercle bacilli undergo "intracellular digestion." No tissue culture could ever rid itself from the infection. A paper on this subject is awaiting publication.

## II. ASSESSMENT OF WORKING CAPACITY

Since 1934, research was carried out at Papworth, supported by an expenses grant of the Medical Research Council, into the possibility of developing a method of assessing the working capacity of tuberculous patients. A special technique has been worked out, the principles of which have been described in Research Bulletin, 1938.

In 1943 it was decided to incorporate the scheme into the routine of the Institution. From 1943 to September, 1945, 500 patients underwent the "examination for rehabilitation" according to a standardized technique, including functional and ergometric tests. A report was issued in each case. During the last year the test results of the 500 cases were analysed and the assessment compared with the actual work tolerance. From this research a system of standards has emerged which can be used as a guide for scientific placement of patients in sheltered industry. The final results are now being compiled and will be described in a separate publication.

I should like to express my gratitude to Dr. Honor B. Fell (Director of Strangeways Research Laboratory, Cambridge) and Prof. H. R. Dean (Department of Pathology, Cambridge) for their co-operation and hospitality in putting at my disposal facilities for the carrying out of part of my research work.

## THE SIMS WOODHEAD MEMORIAL LABORATORY

D. Barron Cruickshank, L.R.C.P. & S. (Edin.),  
L.D.S. (Edin.), D.P.H. (Camb.)

It is very pleasing to report that the extensions to the Laboratory have now been completed. The following will give some

idea of the accommodation: *Research Laboratory and Office for the Medical Officer in Charge; Room for typist and Assistant Librarian; Section for the examination of Sputum, giving facilities for direct smear cultures and slide cultures; Dark Room Annexe for Fluorescence-Microscopy of sputum; Facilities for Inoculation Tests and Typing of bacilli; Department for General Bacteriology, Haematology, Serology and Section Work; a Room for the Preparation of Media and the Sterilizing of apparatus; a Biochemical Research Laboratory and a Chemical Store; Front Vestibule fitted as Balance Room; Rear Vestibule equipped with large Refrigerator and Shaking Machine. There is also a Dark Room for Photography, Microphotography and Photo-stats, a Cloak Room and a Telephone Kiosk.*

The extension is situated at the rear of the original building, the internal arrangements of which have been modified in order to weld the whole into one single unit. The building, decorating and equipping has taken about two years. The extra accommodation and improved working facilities have long been required, and we may now consider that we are reasonably in balance with the general developments which have taken place in the Settlement as a whole.

The reporting, or diagnostic, service is an essential function of a Laboratory forming part of a Hospital and Sanatorium Unit, and a summary of the diagnostic investigations carried out during the year will be found in the accompanying Tables.

Much of the routine material is invaluable for research purposes, e.g., in the case of sputum, we are particularly interested in the transition point at which a smear becomes microscopically negative and yet still remains positive on culture; also in the factors leading to delayed positives, that is, cultures which become positive only after 9, 12 or 15 weeks' incubation. Several other aspects of sputum technique are under careful review. We have also installed a *Fluorescence Microscope*: the technique of this interesting method has been considerably improved since it was first introduced, and we are exploring its advantages as applied to our own diagnostic routine. These appear to be very considerable.

We are interested in the factors governing *Haematuria* following Transfusion at Thoracoplasty, and have also worked out an improved method of estimating *Histidine* excretion in urine.



The fundamental variable in *Blood Sedimentation* is the size of the corpuscular aggregates ; a wedge cell has been designed, which may make possible direct measurement of this variable. Tentative investigations with rather crude apparatus have demonstrated its feasibility, and Standard Cells of optically-worked glass have now been prepared by a Cambridge firm. With these it is hoped to pursue the investigations with a higher degree of accuracy.

Fundamental Research on *Zinc Metabolism* is temporarily in abeyance, but it has been possible to continue with the analysis of Dr. Percy Stocks' data relating to *Cancer Distribution* in England and Wales. The results are summarized in the form of three-dimensional models, the subject being essentially intricate. In a broad outline the main conclusion reached is that, whatever the nature of the Regional Influences (that is the influences affecting or modifying both rates within their locus) any single influence appears to be operative over wide tracts of country, gradually diminishing in intensity as we pass from its central zone. Influences are not as a rule limited to some small circumscribed area. This fact may assist in the difficult task of determining their nature.

We are continuing our regular examination and check on the quality of the Milk Supply, and it is pleasing to note that *Pasteurized Tuberculin-Tested Milk* has now been made available to our Villagers.

The Department has also participated in the design and planning of a new Sputum Sterilizing Unit ; in demonstrations at the two Post-Graduate Courses in Tuberculosis recently held at Papworth ; and in teaching Urinalysis to Nurses taking the T.A. Certificate.

A new activity of the Laboratory is related to the Library work. We have long felt the need for a detailed index of current tuberculosis literature, especially in view of the large volume of the latter constantly received at Papworth. This work we have now commenced and we already find the results extremely valuable both in routine and in research fields.

## Chemistry.

### Chemico-Pathological.

Standard Urinalysis	...	...	1,076
Special Urinalysis (Quantitative Tests Albumen, Sugar, Histidine, etc.)	...	...	289

Blood Chemistry (Sugar, Urea, Van den Bergh, etc.)	...	...	37
Test Meals, C.S.F., Faeces, Pleural Fluids, etc.	...	...	14
Food and Drugs	...	...	8
Other Miscellaneous	...	...	123

### Analytical and research.

Histidine	...	...	257
Industrial Tests	...	...	2
Milk (Phosphatase, etc.)	...	...	143
Water (Hardness, etc.)	...	...	564
Other Miscellaneous	...	...	150

## Bacteriology and Haematology.

Sputum Direct Microscopy	...	2,891
„ Hunts County Council	...	64
„ Cultures for b. tuberculosis (No. of cases)	...	496
Cultures for Tuberculosis and General Bacteriology	...	2,614
Microscopic Preparations	...	3,620
Sections	...	90
Animal Inoculations	...	37
Vaccines, Suspensions, etc.	...	33
Serological Tests (Kahn, Widal, etc.)	...	16
Haematology (Hb. Counts, Grouping, Cross-Matching, Clotting Time, etc.)	...	353
Sedimentation in Wedge Cells	...	210
Preparation of Avertin Solutions	...	44

## THE VILLAGE

During 1945 there were 10 notifiable cases of whooping cough, 8 of chicken pox and one each of mumps and measles in the village, and one death. There were 8 births in the village, but only two took place in the homes of the parents, the remaining confinements taking place at the County Hospital.

The following visits were paid during the year :

General Nursing	...	...	2,277
Ante-Natal	...	...	50
Child Welfare	...	...	98
Casual	...	...	365



## PAPWORTH INDUSTRIES

*B. Tallyn, General Manager.*

A great and eventful year, one never to be forgotten in our lifetime.

Just as in 1939 we had, in the country's interest, to change from peace-time products to armaments, so now had the change-back to be made.

As was the case with most large business firms, this had been foreseen, and as far as was humanly possible provided for. The selling machinery of our organization had already been overhauled. Contracts were entered into with an eminent firm of industrial designers to re-style and, where necessary, re-design our pre-war products to be ready for the industrial drive which, it was felt, was bound to come. As a result we were able to make a ready response to the Government's call for articles for the export market.

By the end of the year the Leather Goods Department had made and exported to various parts of the world 60,000 articles of travel goods ranging from business folios to wardrobe trunks.

The Woodworking Departments were kept busy throughout this difficult period of change-over in making standard kitchen and bathroom units, prefabricated house sections, utility furniture and building joinery.

Already in the Printing Department the letterpress machines were heavily engaged on work of high priority for H.M. Government, whilst a steady but rapidly growing business was being built up in the Bookbinding Section with many famous firms of English publishers. This latter section of our activities was the latest to be developed and unfortunately, therefore, is not as highly mechanized as we would wish, a fault which is, and will be for some time, extremely difficult to put right. Nevertheless, it has done, and is doing some very fine work, and is one of our most useful adjuncts, absorbing as it does much of the female labour which comes to us from the Institution.

During the war also, despite the many difficulties, we were able to complete the building of three pairs of cottages, and lay the foundations for another two pairs. Unfortunately, this is a long way from meeting the large demand. The labour capacity in the workshops greatly exceeds the supply. Given the necessary housing, hundreds more dis-

abled persons could be given opportunities for rehabilitation. This would undoubtedly be a very useful contribution to the national problem of the Rehabilitation of the Disabled.

Another problem, too, confronting us at the moment is the return from the Armed Forces of many of the sons of our Settlers who have seen service on many fronts throughout the War. Some of these have married and have children, and are in urgent need of houses. It has been agreed by the Committee of Management that houses should be provided. A percentage of the personnel of the Industries must be fit and strong, and it is hoped that these young returned sons will form the major proportion of that percentage.

A record of the splendid work done by the Industries in the War years is being compiled, and it will be a pleasure to forward a copy to any interested reader on application.

In conclusion, I would like to record my grateful thanks to each and every member of the staff and personnel of the Industries who have so unstintingly given of their best to complete another successful year.

## THE SOCIAL LIFE

It is difficult in the short space of this report to give a full and comprehensive picture of the social life of the Settlement, and to those who are interested in all the facets of our community, I would recommend the *Papworth Annual*, the annual magazine now in its twenty-fourth year, which within its covers gives a true picture of one of the most important aspects of rehabilitation. The Editorial Committee, headed by Matron, receives contributions from patients and settlers, past and present, and staff, and the magazine, although much reduced in size, provides an excellent medium for the dissemination of news of personalities and events.

I think it is sufficient here to say that all the various activities of the residents have not abated; whist drives, dances, cinema shows, W.E.A. classes, flower shows, billiards leagues and so on. V.E. day and V.J. day were both celebrated in the proper manner, commencing with services of thanksgiving and ending with bonfires.



One measure of importance in our social life during the year was the formation of the Papworth Youth Association. It is already filling a long-felt need in establishing some cohesion amongst the various activities of the youth of the village and should prove to be of great benefit.

Once again we have to thank our good friends for providing entertainment in the Pendragon Theatre, and especially the following :

The Cambridge Brotherhood Band, for Christmas morning music.

The Cambridge War Factories for a pantomime.

The Letchworth and District Orchestral Society, for Sunday evening concerts.

The Progressive Players, Cambridge, for "Night Must Fall."

The Papworth Dramatic Club, for "Gaslight" and "The Late Christopher Bean."

The R.A.F., Graveley, Great Staughton and Oakington, for camp shows.







