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MEMORANDUM OF THE STUDENTS' MEDICAL COUNCIL

TO THE
COMMISSION OF ENQUIRY INTO THE TRAINING OF MEDICAL STUDENTS.

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SECTION I.

MEDICAL CURRICULUM1. General Aspects of Preclinical Training.

This embraces the courses of Chemistry, Physics, Botany and Zoology in 1st year; Anatomy and Physiology in 2nd year; and Pathology (with Bacteriology and Parasitology) and Pharmacology in 3rd year. Each of these constitutes a subject in its own right, with all the need for a concentrated study over several years for its full understanding. Quite obviously preparation for a medical degree cannot (and need not) include the complete study of each of these subjects, so that the essential problem is one of efficient selection from the mass of material in existence. Determination of the efficiency of such selection depends upon a prior choice of the goal of preclinical training, and then upon the suitability of the material chosen for achieving that goal.

Each of the preclinical subjects mentioned is composed of two types of subject-matter - that necessary to later clinical understanding and that which cannot be so applied. At times the distinction between them is difficult, for any piece of knowledge may, under some exceptional circumstances, be found to be of use. In practice, however, this distinction can be based upon the probable utility value of any piece or system of knowledge.

Of these two-types of subject matter then, the former is designed to pave the way for later clinical studies, and so follows a utilitarian motive. Even amongst this type of material some selection is necessary - it is made on the same basis as is the selection of clinically relevant from non-relevant material - and in no subject can it today be said that too much clinically relevant material is taught.

It is with the clinically non-relevant material that shortcomings are found. Since the amount and nature of clinically relevant teaching is partly dependent on the amount and nature of clinically non-relevant teaching, consideration of the latter will automatically affect the former.

Several reasons have, at one time or another, been put forward to account for the teaching of clinically non-relevant material. Some of the main ones are:

1. It is necessary for the understanding of clinically relevant material e.g. a knowledge of atoms, ions and electronic structure is necessary to later consideration of pH, Donnan equilibrium.
2. It is necessary for a doctor to have a broad general education, to know more than what is of immediate technical concern to him.
3. This material helps to round off the subject, and thus assists the student to see the subject as a whole and to appreciate it as a science.
4. Learning such material trains the mind, and makes it more receptive to further studies.
5. By means of this material, logical processes and methods of scientific approach are demonstrated.
6. The student will have ample chance to acquire clinically relevant knowledge for himself, while, since neither incentive nor opportunity may arise later, other aspects of the subject should be taught while the chance exists.

Analysis of these suggestions will be of value in assessing the goal of preclinical training. The first, if ^{time} is a valid reason; it may, however, be invoked where only a superficial connection exists, and, if this occurs, the material so taught would require further justification for its inclusion in the course.

The second and third points are denied by very few people. As usually put forward however, the arguments ^{assume} that the present method of teaching satisfies these objects. It is contended here that in no way are the stated aims fulfilled, in support of which contention the following reasons are given.

As interpreted by the student, clinically non-relevant matter is presented to him as a mass of facts, often unconnected, and devoid of other than examination significance. Few of these facts are linked with social, economic or scientific significance. Interrelationship, rather than being demonstrated and inferred, are taught as more items to be committed to memory. Aspects of scientific methods are seldom considered.

It might be argued that even if students forget all of the subject matter, as occurs for most people with Botany, Invertebrate Zoology, and much of Physics and Chemistry, there still remains some residual effect on his mind which helps to mature his powers of reasoning and observation. This factor certainly cannot be denied nor underestimated, but it is for protagonists of the theory to prove that this result of present teaching justifies the time spent on it, and to disprove that it cannot be obtained by the teaching of clinically relevant material.

Were the student to acquire a thorough knowledge of Botany, Physics, or any of the other preclinical subjects, the time devoted to them would be well spent. Unfortunately, no such event is possible. Where it takes a minimum of three years concentrated study to begin to appreciate and understand most science subjects (and some people fail to achieve this standard), it is unduly optimistic to expect students to grasp a subject after a short and interrupted course of study. Ultimately the student acquires neither a general education nor a scientific understanding. Worse, many students, retaining only the memory of isolated details, remain apathetic or hostile to these subjects or to science in general,

a most undesirable result.

The fourth suggestion put forward is that some transfer of training is involved. Today, educational psychologists note the value of this at only 10% of what it was once thought to be. If the mind is to be kept active, it can perfectly well be trained by clinically relevant material.

Fifthly is a point already briefly considered. The teaching provided does not stress logical processes and scientific method, and, even if it were to do so, it could as well be done with clinically relevant material.

Finally, the sixth point is really dependent on the preceding five. If the clinically non-relevant material is worth teaching for any of these reasons, then it should be taught with these ends in view, and not just to fill in time.

From the foregoing analysis, definition of the goals of preclinical training can be attempted. The first is the obvious utilitarian one, thought of in terms of later clinical work. Next comes the provision of a general education, and finally an adequate training in scientific methodology.

Teaching of clinically relevant material satisfies the first aim, and can be further improved if additional clinically relevant material be included at the expense of the truly superfluous non-relevant material. Furthermore, utilisation of the same material can implement the second and third aims, in part at least. If this material, usually regarded as of low premium because of its utilitarian nature, is used to bring out the scientific approach, to demonstrate social and economic aspects of science, to indicate the underlying philosophy, to introduce the student to the historical approach, then the student will have acquired more of a broad general education and a knowledge of scientific method, than he would otherwise have done in four or five years of preclinical training in its present form. Wisdom and quality are required rather than knowledge and quantity.

To achieve these aims several methods of approach can be utilised. Initially, a ruthless pruning of the preclinical courses should be done, bearing the subsequent procedures in mind. With the remaining subject-matter varying facets of methodology, sociology, economics, history or philosophy can be explored, so that both aims are achieved simultaneously.

Even with this approach though, scientific methodology would probably not be adequately taught, nor would a sufficiently broad general education be attained. It is a cause for both wonder and concern that people can equate a superficial and scanty knowledge of the first year sciences with a broad general education: conversely, it is surprising how seldom an acquaintance with philosophy, logic, linguistics, scientific method, sociology and political science is demanded by these same people. It would seem foreign to them to hear the words of H.J. Carman, Dean of Columbia College, when touching on some of the facets of this question, he said: "... every college should avoid graduating social and political illiterates, even though their special interest may be in the natural sciences" (University Quarterly, vol 1, pp 262-8, 1946). Therefore, to reinforce the above system, which should be basic to the whole preclinical training, certain additional measures need to be introduced. Some of them take the form of short courses, well integrated with the more customary subjects, and which act as preliminary demonstrations for the main features of logic and scientific method, sociology, psychology and economics. Probably best given late in the first and through the second and third years, these could utilise material already made familiar to go in slightly greater detail into the principles of these subjects. Beyond this, optional courses should be provided whereby the student who is interested can delve deeper into such subjects as the History and Philosophy of Science, the History and Philosophy of Medicine, the Social and Economic aspects of Medicine, Genetics, Statistics, Physical Anthropology, Psychology, Linguistics and the like. For the other people, no more can be done than open up vistas; only frustration and dissatisfaction will be gained by attempting to force wisdom into reluctant heads.

II. Premedical Course - Details.

1. Biology:

The course in Zoology at present deals largely with the structure and morphology of certain animal types including the earthworm, snail, dogfish, frog and rat. There is little attempt at teaching the relationship between the animal types dissected. Very little evolution, embryology, physiology are taught. The emphasis has been on learning the structure of a number of animals in considerable detail. In botany plant morphology, systematics, and to a less extent, plant physiology are taught.

Our recommendations in regard to the teaching of biology are similar to those of the Planning Committee on Medical Education of the Royal College of Physicians of London whom we quote (page 13 para 37) "It is true that the medical student usually finds biology the most interesting of the premedical subjects, but we think it might be made more interesting and of much greater educational importance by broadening its scope. We suggest that the biological course should include an elementary study of the development and structure of man which might be approached through a similar study of amoeba, hydra, dogfish, frog, and rabbit. The elements of mammalian physiology could be seen against the background of the physiology of lower animals To allow for such a programme and for the development of the more important biological principles such as the evolutionary hypothesis, adaptation to environment, and genetics, it is suggested that the animal types be reduced to those already names and that botany be eliminated, apart from the elementary physiology of green plants and bacteria"

We feel that this will give the student a better perspective in biology and a better introduction to the study of man - his structure, physiology, relationship to other animals in the evolutionary scale, and his relation to his environment.

In the case of botany, we feel that there is very little of value to the medical student; and that any time spent on subjects other than the elementary physiology of green plants and bacteria, could be better spent in cultural or vocational pursuits. In this form the course in biology will be broader in scope and yet free a considerable number of teaching hours for other purposes.

2. Physics:

We feel that the course in physics is on the whole satisfactory. In view of the fact that many of the established principles are easily demonstrable in the laboratory, we recommend that in physics lectures be cut down to the absolute minimum necessary and that students learn through experimentation in the laboratory, together with an appropriate number of seminars. We also consider that the more important apparatus used in physiology and medicine - e.g. optical lenses, the electrocardiograph, roentgen rays, etc - should be explained during the course in physics.

3. Chemistry:

Two aspects of chemistry are of fundamental importance from the point of view of medicine, namely physical and organic chemistry, which form the basis of biochemistry. We feel that while the scope of inorganic chemistry taught is adequate some details should be omitted from this part of the course; for example, the commercial preparation of metals.

We feel that far more time should be devoted to the teaching of physical and organic chemistry, in view of the trends in modern medicine, and that this teaching should be so organised as to pass smoothly at the beginning of the preclinical course into teaching in biochemistry. The applications of the principles to physiology and biochemistry should, however, be taught by these departments.

4. Introduction to Medicine and Sociology:

We feel that a general introductory course explaining to students the scope of medicine be given during the first year; that is, at the stage when the student is commencing his studies and is eager to hear what medicine is, and what he will learn during his vocational training. The course has to be very elementary as far as medicine is concerned.

Professor Sigerist outlines such a course, which he gives to premedical students:-

- " I. Man in Health.
 - 1. Man as a mammal
 - (a) Structure
 - (b) Function
 - (c) Mind
 - 2. Man as a social being.
- II. The Promotion of Health
- III. Man in Illness
- IV. Disease
 - 1. Symptoms
 - 2. Nature
 - 3. Diseases
 - 4. Incidence of illness
 - 5. Social and economic consequences.

V. Causes of Disease

1. Heredity
2. Social environment
3. Physical environment.

VI. Prevention of Disease

VII. Restoration of Health.

1. History of the sick
2. Diagnosis
3. Treatment
4. Rehabilitation.

VIII. Medical Practice and the organisation of medical services.

IX. The physician, yesterday, today and tomorrow."

He continues " I think that such a course can have a great educational value. It gives more purpose to the premedical studies by demonstrating the necessity of a broad, general and scientific foundation. It also is a good preparation for medical school in that it develops in the students a certain attitude towards the subject. The historian of medicine who gives such a course is their first medical teacher and has a great opportunity to advise them on how to organise their studies, and since he meets them at a moment when they are extremely receptive, some of his words will be remembered after many years." (Essay: The Social Sciences in the Medical School: University at the Crossroads: pages 133-135)

We feel that such a course would fill a gap in the present curriculum (which at present includes lectures in Preventive and Social Aspects of Medicine and on the Philosophy of Medical Practice - but which have been inadequate up to the present). The need for such a course is self evident.

Further, at no stage in the present medical course is an attempt made to interest the student in the problems and methods of the science of sociology. Quoting further from Professor Sigerist (ibid. page 127) "The statement that medicine is a social science sounds like a truism, yet it cannot be repeated often enough because in medical education we still act as if medicine were a natural science and nothing else. There can be no doubt that the target of medicine is to keep individuals adjusted to their environment as useful members of society, or to readjust them when they have dropped out as a result of illness. It is a social goal." It is our contention that a preliminary outline of some of the main topics of sociology should be included in the first year of study. Professor Sigerist does not include this in his course to premedical students. The reason is that these students usually study sociology during the period of their premedical training; which frequently consists of a four year degree course and always of a two or three year college course. The course we propose should include the following subjects:-

1. Sociology - the study of Society.
2. The Family - its history, development, functions and roles in society.
3. Social Pathology - including the study of personal problems as they affect the individual; and as they affect the relations of the individual to society; and including such topics as old age, illegitimacy, poverty and dependence.
4. Social Psychology - including public opinion, propaganda, and the press.

The teaching time occupied by this course and the course Introduction to Medicine, would be approximately 60 hours. With the changes in the Biology course including the drastic reduction of the time spent on Botany, we submit that there will be adequate time available for courses such as above outlined.

III. Preclinical Course - Details.

1. Anatomy:

1.1 Gross Anatomy.

In the past topographical anatomy has been taught in great detail, and with little reference to anatomical problems as they occur in the living subject. It is felt that the majority of students will become general practitioners, enough anatomy should be taught for this purpose only; the detailed study of anatomy for the surgeon should be undertaken during the postgraduate period. We feel also that the study of anatomy must be directed at giving students a knowledge of anatomy in the living subject.

We therefore, wholeheartedly welcome the revised anatomy course to be run in 1949. A brief outline of the main features of this course follows:-

1. Students will spend 6 hours per week less on anatomy than in previous years.
2. Students will be required to know less detail of anatomy of no importance for the medical practitioner.
3. There will be both anatomists and surgeons teaching in the lecture room and dissection hall.
4. Theoretical tutorials will no longer be given. Tutorial teaching will take place on demonstration bodies.
5. There will be an attempt to teach anatomy in terms of function e.g. greater stress will be laid on the actions of individual muscles and groups of muscles, than upon details of their attachments.
6. It is proposed to lay emphasis on surface anatomy - hitherto largely neglected.
7. The elements of normal radiology will be taught.

1.2 Microscopic Anatomy.

We consider the present course satisfactory.

1.3 Physical Anthropology.

We recommend the elimination of this subject from the Anatomy curriculum, and its inclusion as an optional course as outlined previously.

1.4 Embryology.

Less emphasis should be placed on early developmental stages, which, though of importance to scientists, are of no theoretical or practical value to the practitioner. All that should be taught is material necessary to the understanding of the embryogenesis of various organs.

Subsequently, embryological teaching should pave the way for an understanding of congenital anomalies and of the gross anatomy of the body. Both these aims have been achieved in the past, but the first deserves greater emphasis and the second merits a greater degree of integration with the teaching of gross anatomy.

2. Physiology and Biochemistry:

We feel that the curriculum in physiology and biochemistry is adequate and satisfactory except in the following respects:

- (a) The practical course in experimental physiology consisting of experiments on frog muscle and heart should be eliminated.
- (b) The course in practical human physiology should be extended; the time at present occupied in experimental physiology should be used for the teaching of practical human physiology. During this course which should be run as a practical seminar class in charge of clinicians, the elicitation of normal physical signs, the use of instruments such as the stethoscope, ophthalmoscope, oroscope, etc should be adequately taught. Emphasis should be placed upon the physiological normals.
- (c) During the course attempts should be made to demonstrate clinical cases showing syndromes dealt with in the course of lectures, e.g. upper and lower motor neurone lesions; hemiplegia; myxoedema; thyrotoxicosis.
- (d) The physiology of growth is not at present taught adequately in any course. It is, however, of sufficient importance to be included as a separate section of the physiology course.

3. Neurology:

Neurology is at present taught in both the Departments of Anatomy and Physiology. We feel that the anatomical and physiological aspects should be dealt with by one department; preferably a department of Neurology; but if this is impossible, by either the Physiology or Anatomy Department.

4. Psychology:

"Whether he is dealing with problems of health or sickness, a medical practitioner cannot fully understand his patients and advise and treat them adequately unless he pays due attention to their psychological background. The better the doctor, the more attention he pays to this background without perhaps thinking that he is doing anything "psychological", but for the most part, nowadays, he has to rely mainly upon natural insight and commonsense, rather than on trained understanding and experience, the reason being that, with few exceptions, the training which the medical schools still provide is based upon the narrow, old view of the scope of psychiatry." (Report of the Goodenough Committee Chapter 13 par. 1, page 181.)

And further "It is undesirable for a student to be brought into contact with psychological illness until he knows something about the psychology of normal healthy persons. He should, therefore, be given a short elementary course of normal psychology during the pre-clinical part of his training, in association with the course in physiology".....

...." "We

"We agree with this statement made by Dr. Aubrey Lewis in his memorandum of evidence:- "It is more important that the teaching in psychology should be relevant to clinical practice, stimulating, and likely to leave an impression on the future practitioner's outlook than that it should be very erudite...." (ibid. Chapter 13, par. 9-10 page 184).

We wholeheartedly endorse these statements and recommend a course in the principles of psychology, keeping in mind the words of Dr. Lewis, to be taught concurrently with the course in physiology.

In the ward and outpatient teaching of clinical years, we recommend that greater emphasis be placed by teachers upon psychological factors than has heretofore been the case.

5. Pathology and Bacteriology:

We consider the course in Pathology and Bacteriology at present given, to be adequate. Much detail was eliminated from the Bacteriology course in 1948. In Pathology, the whole ground of general and special pathology is covered during the third year; the examination at the end of the third year usually excludes the subjects of bones, endocrines, and the male and female genital tracts which are later dealt with in surgical pathology. Formal teaching of pathology is continued in the clinical years. We feel that the conditions seen in the postmortem room in third year, should be demonstrated to students in the living subject - e.g. lobar pneumonia, chronic bronchitis with emphysema, nephritis, congestive cardiac failure.

With regard to Bacteriology, we feel that there should be an attempt at correlation of the teaching in this department with that in the department of Public Health. Such lectures should "stress the epidemiological aspects of disease, which are caused by groups of organisms that are studied in the bacteriology course.

Lectures are given under such headings as:-

Some essential points in the scheme of public health;
Diphtheria from a public health stand point;
Epidemiology of influenza;
General considerations of the prevention and eradication of communicable diseases.

These lectures not only reinforce the emphasis already placed on the fundamental importance of bacteriology in diagnosis, but emphasize its importance in the prevention and treatment of disease." (Report of the Botha Committee, 1939, Chapter II, par. 1, page 15).

We feel that at present there is too little collaboration between clinicians and pathologists in the teaching of students. That in suitable cases the pathologists should collaborate in teaching in the post-mortem room, on cases which have died in the wards, and with which the students are familiar. In this connection, we quote the Report of the Goodenough Committee (page 144-145 Chapter 8, par. 26) "If pathology is to take its proper place in undergraduate medical education, it is essential that students should see day to day collaboration between clinicians and pathologists at the bedside, in the outpatient departments, and in the laboratories. Given such collaboration, there should be no difficulty in arranging suitable co-operative teaching by clinicians and pathologists, including clinical pathological conferences held at regular intervals, post-mortem demonstrations and ward demonstrations, Pathology can be taught in the wards, just as medicine and surgery can be taught in the laboratory and post-mortem room."

6. Pharmacology:

At present, a course is given in Pharmacology lasting one year in the third year of study. The course gives instruction in the action of drugs, dosages of drugs, uses of drugs, and in therapeutics.

It is felt that at this stage of their training, students are not in a position to take advantage of such a course. Student opinion is unanimous on this point. We feel that a course in Pharmacology should be given during the third year of study and lasting for a period of six months only. The course should deal with the principles of drug action; the actions of important drugs; and the general principles of the use of drugs. Dosages of important drugs only should be learnt. The course should contain no therapeutics.

A course in Therapeutics and Applied Pharmacology should be given throughout the clinical years. A course along these lines has been instituted in 1949 for sixth year students. Subjects such as the management and treatment of congestive cardiac failure including the use of digitalis; the treatment and management of allergy are dealt with. The course should be conducted by the Clinical Department concerned together with such members of the Pharmacology Department who are clinicians.

7. Statistics:

A. Present course.

None exists here, although at least one of London's medical schools - St. Mary's Hospital - has such a course.

B. Opinions.

With the flooding of medical literature by countless articles on new theories of causation and treatment, the student of medicine had to have some critical ability to enable him to sort the wheat from the chaff. In view of the increasing importance of statistics

in scientific work it behoves the student to have a minimal knowledge of this subject lest he be too easily imposed upon. In the realm of therapeutics this is of especial importance.

The Report of the Interdepartmental Committee on Medical Schools stressed this aspect (Chapter 7 par. 29) and in addition pointed out the need for accurate classification of diseases, injury and causes of death and stated that:

"Instruction on these points can best be given by:-

- a. a short course during the preclinical stage of training on the elements of statistical method, and
- b. further teaching during the clinical stage on the best methods of analysing clinical data, the classification of diseases and injuries, and the importance of accurate death certification."

C. Recommendations.

Content of course - It should be technically simple and designed to illustrate the uses and limitation of the subject, to remove alike its aura of "unapproachable higher mathematics" and its pretensions to infallibility. The common technique can be demonstrated.

Time of course - Probably best taught, not as a separate subject, but integrated with one of the preclinical sciences and again with therapeutics, from both of which suitable illustrations can be drawn. In all, some 5 - 8 lectures in the second and third and in the fourth year could be given.

IV. Clinical Course.

1. General Practitioner Training.

An accepted principle in medical training is that it be directed towards the needs of the general practitioner; any other branch of the medical profession can be catered for by post-graduate specialisation. It is unfortunate, therefore, that much of the students training is given by specialists on cases requiring hospitalisation. Minor conditions which loom so large in general practice are seldom admitted to the wards. To correct this bias measures have been employed in this hospital.

1.1. O.P.D. Teaching.

Outpatient attendance usually provides a fair example of diseases come across in practice. It is recommended that the importance of this training be impressed upon staff and student alike, many of whom are inclined to be bored and dissatisfied by the absence of major pathology.

1.2. General practitioner tuition.

Some of the honorary members of staff are general practitioners and, providing these people are competent to teach, there is no reason why more use should not be made of their services. It is a matter for regret that only one senior physician on the hospital staff is a general practitioner.

Furthermore, teaching by specialists can often be directed towards the general practitioner's needs.

1.3. Training in general practice.

This is gained during a stay of two and a half weeks at the Alexandra Health Centre and University Clinic. In this period the whole gamut of general practice is sampled and the importance of the training can neither be overestimated nor overpraised.

1.4. Casualty.

Attendance for three weeks during the fifth year helps to give the student experience in minor surgery and in the handling of emergency cases and in the initial diagnosis of the more acute illnesses.

2. Training in Social Medicine.

2.1. As from 1949 the Department of Preventive Medicine provides a brief series of lectures on "The Preventive and Social Aspects of Medicine" in each of the first, second and third years of study; a qualifying course in "Preventive and Social Medicine including Sociology" in the fourth year, for the fourth examination for the degree; and a course in "Social Medicine" in the sixth year. This latter course at present consists of two and one half weeks general medicine, surgery and mid-wifery at the Alexandra University Clinic. At present this is a course in general practice, and as such is of extreme value. It is not, however, a course in social medicine.

2.2. The Goodenough Committee (Chap. 11 Para. 1-2. p 167) thought that there was no generally accepted definition of social medicine. As used by them the term included the more restricted, though very important, subject of disease prevention. "It also signifies a particular conception of Medicine; a conception that regards the promotion of health as a primary duty of the doctor, that pays heed to man's social environment and heredity as they affect health, and that recognises that personal problems of health and sickness may have communal as well as individual aspects."

"The importance of the promotion of mental and physical health and of the prevention of disease is being increasingly recognised by the medical profession and the general public. There is growing support for the view that a general medical practitioner should become the health adviser of his patients and their families and should participate to a greater extent in the conduct of the health services of the country."

2.3. The Report of the Planning Committee of the Royal College of Physicians of London on Medical Education (Para 81 p. 31) endorses "recommendations which should bring about a new attitude of mind enabling the student to see disease not as a series of museum specimens, but against a background of the society in which it has developed; and which should facilitate the measures necessary for its prevention and control. Since social medicine is largely the study of environment as its causes or influences disease, we would stress the danger of it becoming a specialist study relegated to a specialist department. It should be the aim of all physicians and surgeons to permeate their teaching with an interest in social medicine."

2.4. We feel that the teaching of Social Medicine must be regarded as an integral part of the medical course and, moreover, that it can best be taught by the departments of Medicine, Surgery and Obstetrics and Gynaecology.

We feel that in modern practice a complete diagnosis of a disease state must take cognisance of two factors:- the biologic (including somatic and psychological) and the social, exemplified by such diseases as tuberculosis, the venereal diseases, and malnutrition. These factors in varying degree in different patients are responsible for the disease conditions found in our hospitals. We cannot but comment forcibly on the manner in which the social and to a lesser extent the psychological factors are neglected in our routine hospital teaching.

Recommendations.

1. That a new spirit of clinical teaching be encouraged - in order that ~~the~~ diagnosis and therapy may be considered from somatic, psychological and social aspects.

2. That Social workers be attached to Hospital Units, constituting another member of the team attending to the patient, and participating also in ward rounds and discussions on patients. It is suggested that there should be one social worker per 25-30 beds.

3. That the departments of Medicine and Surgery conjointly institute a series of Medico-Sociological conferences run weekly or fortnightly with the object of illustrating the close correlation of the biologic and social factors as they arise in the everyday practice of medicine. The University of Birmingham has recently instituted a course on these lines.

4. That a course in the principles of Sociology be given during the preclinical period as previously recommended.

5. That in the light of the growth of a Health Centre scheme for South Africa, and to gain practical experience of social medicine in practice, students do a "block" of two weeks at a Government Health Centre in order:-

- a. To acquaint themselves with the problems of the promotion and maintenance of health (as distinct from disease) and with the technique of the Periodic Health Examination as practised in these centres, in adults, children and pregnant women.
- b. To acquaint themselves with the medico-sociological problems met in the practice of medicine.

(i) They will learn during this period to approach the individual (not necessarily the individual complaining of symptoms of disease, but also the "healthy" individual) as a member of a family and as a member of a community.

(ii) They will learn the customs, habits, economic and social problems of a community and their influence upon health and disease.

(iii) They will gain practical experience of housing conditions, overcrowding and sanitation and their effect on mental and physical health and disease.

(iv) They will visit working places and study industrial health.

(v) They will gain some knowledge of the agencies and facilities available to help the needy.

While realising that facilities for such instruction are at present inadequate and almost non-existent, we feel that we must press for the institution of appropriate facilities at Government Health Centres as soon as is possible.

3. Psychiatry.

Present course: A course of lectures on basic psychology and psychiatry is given in 4th year. This course covers the symptoms and signs of psychiatric disorders, the etiology of such disorders, principles of classification of disorders, principles of treatment; it then considers the main disorders - organic, toxic and constitutional psychoses, psychoneuroses, mental deficiency and disorders in childhood; finally the relevant legal aspects are considered.

During 5th year, three afternoons are spent at case discussions and demonstrations at a Mental Institution, a morning is similarly spent at the Witrand Institute for the Feeble-minded, and two days are spent at a Mental Institution making personal contact with, and examinations of, suitable cases. Attendance at O.P.D's is optional.

Opinions.

The major defects in an otherwise good course are, as in medicine, a lack of experience in the diagnosis of early cases, not as yet certified. But, of far greater importance, is the lack of adequate tuition in the minor psychoses (psychoneuroses), psychosomatic medicine and preventive psychiatry in its social, etgenic, and other aspects.

Recommendations.

These defects can be met by the addition to the course of a few lectures on psychosomatic medicine and preventive psychiatry. Thereafter, experience with early cases of disorder and with minor psychiatric disorders could be obtained at O.P.D's, if attendance of the whole class is feasible, while these aspects can and should be freely discussed in the wards. The problem is not so much that of training the student, as of training the clinical teacher.

4. Clinical Pathology.

A. Present course.

(a) Lectures: A Course of some 10 lectures is given by the Clinical Pathology department in 4th year. This Course covers briefly the theory and interpretation of laboratory tests.

(b) Practical work: One period (1 hour) per week for one term. In this time, the technique is demonstrated and opportunity given for the students to examine:

(i) Blood - R.B.C. and W.B.C. counts, Hb, differential count. Smears for melaena. Blood grouping.

(ii) C.S.F. - Cells, sugar, protein.

(iii) Urine - Macroscopic and microscopic.

(iv) Stools -

(c) Haematology Demonstration: Previously, a more extensive course in haematology was given.

(d) In addition, students are expected to perform these examinations on their patients.

B. Opinions.

In itself the course covers too little material, and that briefly. Taken in conjunction with work in other subjects, it can be made satisfactory providing certain conditions are fulfilled.

Clinical Pathology is playing an increasingly important role in medicine, but unfortunately the use of laboratory tests is causing a sharp rise in the costs of medical diagnosis. In a State Medical service, where the patient's economic position presents no barrier to the number of investigations which can be done, an excessive and uncontrolled use of laboratory tests could be a crippling expense to the service. It therefore behoves those responsible for the teaching of Clinical Pathology to see that a more understanding and critical use is made of laboratory tests, and to make it clear that such tests are of value only when the fullest possible clinical assessment has been made. Such an approach would simultaneously do much to advance the standard of clinical diagnosis.

The practical material taught is adequate, and it remains for the student to put his knowledge to use in the side-rooms of the wards. More elaborate techniques should not be taught, as they immediately involve a mass of theoretical and technical detail beyond the scope of efficient undergraduate teaching.

On the theoretical side attention should be paid to the value of tests in various conditions and how best these tests can be used; to the way in which specimens are obtained, and forwarded; and to the interpretation of results, including the possible technical errors.

C. Recommendations.

To achieve these ends, it is recommended that the practical course be given in 3rd or 4th year - preferably the latter. Subsequently, each department be urged to put into practice the above points when teaching about cases or conditions. Whenever possible, clinical pathologists should attend ward-rounds on cases on which laboratory tests figure prominently. Careful preliminary planning could ensure that all the major tests would be so discussed. Finally, in the 6th year, a course of some 10 co-ordinating lectures be given by the Clinical Pathology department on the interpretation of results.

5. Teaching of special subjects.

Present courses:

Certain subjects are taught separately by specialists. Some of them rank as special courses for examination purposes - Infectious fevers, Dermatology and Pediatrics under Medicine, and Anaesthetics, Urology, Orthopedics, Venereal Diseases, Otorhinolaryngology and Diseases of Eyes under Surgery, and Psychiatry by itself. Others, again, while having no special examination status, are given in short courses during the clinical years. The particular subjects so taught are Radiology, Neurology, Neurosurgery, Physical Medicine, Tropical Medicine, Plastic and Maxillo-facial surgery and Therapeutics.

Opinions:

Pediatrics and Psychiatry will be dealt with separately. The remaining specialties cover material bulking large in general practice, although in each only a few conditions e.g. otitis media, deafness, conjunctivitis, glaucoma, contact dermatitis - are of major importance. Beyond these, only sufficient should be taught to indicate the possible range of diseases, in order that patients might be referred to suitable specialists. In general, theoretical teaching as now given covers these features. Practical teaching in the form of two or three weeks attendance at wards and O.P.D's by small groups covers most of the material needed, though it should be noted that for some subjects such attendance is not full-time, being limited to two or three hours per week for Venereal diseases, Diseases of eyes, Otorhinolaryngology. (Anaesthetics, Urology and Orthopedics are presented as full-time courses) Dermatology is presented as a course of 10 O.P.D's spread over 10 weeks, thus amounting to the same practical experience as given in the courses just mentioned. Practical work in fevers is unsystematic, dependent as it is on the types of cases in the hospital.

Of the non-examination courses, Neurology cases are usually seen in the general wards, and all the remaining subjects but Radiology are given only as lecture courses. Some, such as Tropical Medicine and Therapeutics and Physical Medicine are ancillary to general medical teaching, while the others rightfully only exist to point out to the students the potentialities of therapy in certain cases.

Radiology is at present given in too great detail with over-emphasis on long differential diagnosis which, in practice, no general practitioner is likely to make. Being in possession of clinical data, the practitioner automatically restricts his range of possible diagnoses. Some of the time so spent could more profitably be used by discussing details of the preparation of the patient for the more important radiological examinations.

Recommendations.

As suggested above, radiology lectures should be devoted to discussion and demonstration of common lesions as they are likely to affect the general practitioner, and of the preparations of the patient for radiological examinations.

6. Pediatrics.

1. Lectures: A course of some 30 lectures, quite divorced from practical work, is given in 5th year. The syllabus covers the main medical diseases.

2. Lecture-demonstrations: Two of these are held each week in the 6th year, some 80 in all. Each lasts up to two hours, during which time cases from wards or O.P.D's are demonstrated and discussed.

3. Practical Work: Groups of about 8 people attend full-time at T.M.H. for 2½ weeks in 6th year; this period of attendance may occur at any time

of the year during term time. Future groups may be of greater or lesser numbers, depending upon the number of medical students in the 6th year.

During their stay at T.M.H. the students attend medical wards and ward rounds, clerk medical admissions, attend medical O.P.D.'s, and, in the afternoon when pressure of work there is lessened, they attend Casualty. Time may be taken off from this work at the students' discretion to attend routine lectures and special O.P.D.'s at the General Hospital and Medical School. Work done in these periods includes the making up of feeds, examination of children, discussion and observation of the diagnosis and management of cases, follow-up of cases, and the performance of practical procedures like transfusions, gastric lavages, etc.

A similar period of 3 weeks duration is done during 4th or 5th year in the Surgery wards.

Opinions.

Much improvement in Pediatric training has been gained by the adoption of the above measures. Facility in handling children and experience in practical procedure is the main advantage found in the full-time periods, while the lecture demonstrations provide for seasonally-occurring diseases. In addition, much general medicine and surgery is learnt at the same time, so that the total of 5½ weeks spent almost full-time working with children does not reduce materially the time available for general medicine and surgical training. As at present constituted, the pediatrics course is to be commended.

ADDENDUM.

Institution of a Department of History of Medicine.

As outlined previously in this memorandum, we consider that a course "Introductions to Medicine" should be given during the first year of study. We also suggest a system of optional courses including the History and Philosophy of Science; History and Philosophy of Medicine; Sociology and Economics of Medical Practice; the History of the various branches of Medicine. We consider that these courses would be of considerable cultural value to the prospective physician, leading to a stable, integrated, and holistic approach to the art and science of medicine. It is obviously essential that such a course be in the hands of men whose interest lies equally in the fields of history and of medicine - it cannot be handled well by practitioners of medicine who dabble in history, or sociology as a hobby or sideline. We therefore recommend that a Department of History of Medicine be set up; to include in its sphere such subjects as outlined above, and others for which the need might arise in the future. The Institute of the History of Medicine, Johns Hopkins University Medical School, Baltimore, Maryland U.S.A. provides an excellent model for such a department.

Status of the Student in the Hospital.

This is involved in two aspects - the attitudes of the University staff to the student, and that of the Hospital staff to him. A third factor - the attitude of the patient to the student - depends in large measure upon the former two.

For the most part, the attitude of the University staff decides the legality and degree of the student-patient relationship, that is, what responsibility for the patient's care rests with the student, and what examinations and procedure may be done by the student on the patient. In general, for optimal development the student should be given the greatest possible responsibility commensurate with the efficient care of the patient. In 4th and 5th years no such responsibility is given, while under the new curriculum, with the student acting as junior houseman, this defect largely falls away. It is felt that some measure of responsibility be given to students in junior clinical years, and that, given a little extra care, on the part of the ward housemen and physicians, this handing out of responsibility need not act to the patient's detriment. As for the examinations and procedures performed by the student, the only limit set by the staff is that which causes harm or discomfort to the patient.

Recognition of the student as an integral portion of the teaching hospital is still not accorded him by a few members of the hospital staff. These people, usually sisters in charge of wards, seem to regard the students as intruders, and, by placing difficulties of ward attendance in their way, merely foster a spirit of mutual animosity.

SECTION 2.

EDUCATION OF NON-EUROPEAN MEDICAL AND DENTAL STUDENTS.

What are your views on the training of Non-Europeans in Medicine and Dentistry?

We have found no serious opinion which disputes the necessity for providing adequate health facilities for our Non-European population, whether on humanitarian or economic grounds or merely to protect the European population. Nor have we found any opinion which denies that many more practitioners must be trained to meet this need. A study of the distribution of practitioners (Botha Report) gives the evidence to substantiate this.

Furthermore, although there are different sets of political principles held in this country, all of them require at least that the Non-European should be helped to serve his own community.

We hold as a matter of principle that Non-Europeans should be trained in Medicine and Dentistry. Like the Botha committee we believe that every individual should be allowed to exercise his talents to the full and serve his community in the field in which he is most capable.

Once it is agreed that Non-Europeans should be trained, the question arises as to whether this training should be in segregated or multi-racial schools. In dealing with this, we intend to quote our own experience of non-segregated education, to examine the results of segregated education in other institutions, and to examine the arguments against and in favour of segregated education in any extension of training facilities for non-Europeans.

A. Witwatersrand Experience.

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG.
NUMBER OF NON-EUROPEAN MEDICAL STUDENTS.

	Non-European					Total of European and Non-European.	Percentage Non-European.
	African	Indian	Coloured	Chinese	TOTAL		
1938		3			3	660	.45%
1939		3			3	740	.4%
1940		8			8	820	.97%
1941	5	14		1	20	864	2.3%
1942	14	24		1	39	895	4.3%
1943	17	33	1	2	53	917	5.8%
1944	24	34	1	3	62	926	6.7%
1945	33	46	3	5	87	1016	8.6%
1946	32	47	3	4	86	1262	6.8%
1947	35	46	3	6	90	1276	7%
1948	38	38	1	7	84	1140	7.4%

The numbers of the non-European students as reflected in the table are large enough to indicate significant trends.

Academic Results of Non-European students at Witwatersrand Medical School.

Although these results could not be made available to us in detail, we are assured by the University Authorities that they are very satisfied with the academic performance of our non-European students. Very few indeed have had to give up their medical studies on account of academic failure. A number of them have had to extend their courses for six months, while in rare cases an extra year was needed to complete the course. In view of the language difficulty, of the inferior secondary education for non-Europeans, their lack of a cultural background, and general unfamiliarity with medical subjects, these results indicate that the handicaps which exist for non-Europeans at the Witwatersrand Medical School are not sufficient to make a serious difference to their standard of training. The fundamental language and cultural difficulties cannot be eliminated by a different type of school but only by adequate pre-medical training.

Handicaps in training for Non-Europeans at Witwatersrand Medical School.

In the third year of study Non-Europeans are excluded from post mortems on European cadavers. At a general meeting in 1947 the General Student Body, by a very large majority, petitioned the Hospital Authorities to abolish this unnecessary discrimination. The Hospital Board refused this request. This is not very important, however, as long as the Department of Pathology makes suitable arrangements. This can easily be done.

In the clinical years Non-Europeans are excluded from European wards, but there is sufficient clinical material at Coronation and Baragwanath to supply their needs. Since the removal of N.E.H. however, transport difficulties have arisen, but these are problems for the whole of the clinical years. This will have to be overcome by good organisation. Our European students will not willingly give up these valuable sources of clinical material. Without it our training would be very inadequate. Our knowledge of the pattern and incidence of disease among Non-Europeans and the Non-European patient

as a whole/.....

as a whole (most important for many future practitioners) could then only be gathered by many years of haphazard individual experience. Thus these transport difficulties must be overcome, not only for the sake of Non-European students but for the whole of the clinical years.

In weighing up the academic success of Non-European students against the difficulties which face them, it must also be remembered that our African students are the pick of those available. On the other hand, these available are the very small percentage, who have the opportunity of matriculating and further continuing their studies. Conditions are such that we cannot assume that a more thorough and much larger secondary school system for non-Europeans will not produce many more students capable of attaining the same or better standards.

3. Racial Competibility.

Under this heading we shall outline our experience of Europeans and non-Europeans mixing in student affairs.

About 1934 a poll of Medical students showed a large majority in favour of the training of non-Europeans in Medicine, but a small majority in favour of their being trained at some other institution. By 1941, when the first ^{large group of} non-European students entered second year, student opinion had changed. A mass meeting of second year students demanded that the non-Europeans should not be segregated in the dissecting hall.

The constitution of the Students Medical Council, which requires a 2/3rd majority of a general meeting for ratification, in no way discriminates against a student on the grounds of race, colour or creed. (This obtains throughout the University.)

All facilities offered to students by the Students Medical Council are specifically for all students, including the Refectory and the Common Rooms. This has not interfered with the patronage of these facilities by other students.

Non-Europeans are often elected to hold office, and they play a full part in the running of student affairs. The election of a Non-European by the general body of Medical Students to the Students Representative Council, or the Student's Medical Council is a common-place event. So far from leading to feelings of inferiority and frustration on the part of Non-Europeans, these students have been fully equal to participating in our cultural life, and many have made great contributions to it.

The record of student opinion since the advent of non-European students shows a steadily increasing understanding of Non-European problems and needs; approval of their presence and determination to maintain ~~our~~ democratic and non-discriminatory forms of student organisation. Examples of racial friction are very rare indeed. The records of General Meetings show throughout a large majority in favour of equal rights and full participation in student affairs by non-Europeans, whenever these questions arose. The dissident minorities have been small.

We believe that direct contact with European students does much to offset the inferior elementary and secondary school training, which is undoubtedly given the non-European, and that his chances of becoming a good physician are the greater in a mixed environment.

We feel justifiably that the experiment of introducing non-Europeans has been a success and has led only to racial co-operation. We believe that the success is all the greater in view of the prevailing social atmosphere in South Africa, which is very definitely hostile to such an experiment.

B. Segregated Education.

In this case we shall first examine what is probably the closest parallel to any system of segregated higher education which might be introduced here, namely the Negro Universities of the Southern States of America.

1. American Experience.

The "Twenty Years Report of the Phelps-Stokes Fund 1911 - 1931" states "Notwithstanding all this progress Negro education is decidedly behind white education in almost every respect". The Journal of Negro Education, April 1933, quotes the opinion of "an outstanding superintendent of a Southern City:...." The white people of the South have been and are straining every resource in an attempt to maintain adequate schools for their own children. We may be sure that they are not going to take away from their own children the very much needed funds to be spent on the schools of the Negro children, irrespective of how much worse they may be needed there.".... The problem is further complicated by the fact that the Negroes in these States are virtually the wards of the dominant group, the majority of whom are almost as unenlightened as the Negroes themselves, and the intelligent minority who are naturally expected to assume leadership, are either indifferent to, or incapable of, moulding an intelligent public opinion which

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will eventuate in equitable treatment of Negroes. Truly, the education of whites is a significant factor in the education of Negroes.... Segregation makes easy notorious discrimination in the provision of school facilities...."

It should also be noted that whatever progress has taken place in Negro Education in the Southern States has been largely the result of philanthropic endowment. Facts and figures not quoted here may be found in the National Survey of the Higher Education of Negroes. (U.S. Office of Education 1943).

An article in Survey Graphic May 1946, and another in the Journal of Educational Sociology, Oct. 1947, deal with the failure of segregated education in detail. In particular we shall draw from a pamphlet by Professor W. Montague Cobb, M.D., Ph.D., called "Medical Care and the Plight of the Negro", 1947. We shall present some of the findings of his study.

There are two Negro medical schools in America turning out about 90% of the 145 Negroes who graduate annually. "The physicians as a whole represent a mediocre level of premedical and medical training re-inforced by relatively little post-graduate study. This reflects not upon them, but upon the segregated educational system under which most of them have had to gain their training from elementary through professional school and upon the restrictive conditions under which most of them have been forced to practice."

The Negro schools, Howard and Meharry, are more than fifty years old. "They have worked with too many poorly prepared, often ill-chosen students, with faculties in large measure overworked, undermanned, poorly paid and frequently inadequately trained and with hospital and pre-clinical facilities which have been such as, at critical times in the life of each institution, to have jeopardised the standing of the schools."

The academic results of the Negro schools in comparison with other representative schools are distinctly poorer. Closely related to this is the small amount of research work done in the schools, although the schools have long recognised their responsibility in this matter. Only in the last few years has there been any significant activity in this direction because during the last decade foundations and commercial firms have subsidised specific investigations.

On the subject of establishing a third Negro Medical School the author reaches the conclusion that this cannot be justified. The two existing schools are not yet adequately supported and sufficient funds for a new but first-class institution will not easily be found. Obtaining a faculty and student body of satisfactory calibre would present equal difficulties. The only satisfactory solution would be to make the other 75 Medical Schools more accessible to the Negro, while Howard and Meharry would admit more white students.

From this and other evidence on American segregated education, it appears that these forms have very certainly not succeeded.

The final product is not of high standard. This can be related to the following:-

1. Failure to provide a proper Elementary and Secondary School education for the student.
 - ii. Staff of insufficiently high calibre.
 - iii. Lack of equipment and working facilities.
 - iv. Meagre research facilities.

(Research is the mainspring of good scientific training. Without this experience, especially on the part of the staff who impart the impetus to the student, no proper appreciation and study of medical science can be made to-day. In our own experience, we have found what it is precisely those departments concerning themselves with research work that have been able to stimulate the imagination of the student and evoke his interest. These departments are the foundation of our academic life and in particular the foundation for those students who become above-average physicians. The Botha Committee adds its support for this view, now generally held in all scientific circles, from a different angle:-

"..... experience in all modern countries has shown that the establishment of clinical research as an integral part of Hospital service immediately raises the whole level of treatment for the patient").

It will be seen immediately that (ii) (iii) and (iv) all spring from insufficient financial resources. Men of high calibre are unlikely to be attracted by low salaries, poor facilities for research and the stigma that attaches to restricted institutions.

Grants made by State Legislatures, when considered in relation to civil rights and liberties enjoyed by Negroes in those states, indicate that the inferior standard of Segregated Institutions is the inevitable result, not of bad intentions, but of the political axiom

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that a Government must meet the needs of its electorate.

The only justification for a Medical School is that it turns out good physicians. Inferior practitioners cannot be tolerated. The way to achieve this is not to have separate Medical Schools for groups who enjoy restricted civil rights. Subsidies and grants will almost certainly be loaded against them.

Point (1), the provision of proper elementary and secondary education, presents a very complex problem in South Africa, as it involves extraordinarily great changes. We believe that this handicap is very definitely offset, however, by the cultural contact and standard of training which the non-European receives at a mixed School such as ours. The comparison is with the limited cultural background found in a restricted college.

2. FORT HARE.

It has not been possible, in the limited time available, to obtain statistics comparing the budget of this college with those of other representative colleges.

We shall comment on (1) Staff, (2) Salary scales, (3) Courses offered, (4) Research, (5) Student Opinion.

STAFF:- The college appears to be understaffed. There are about 350 students. A number of departments (History, Mathematics, Hollands & Classical languages, Psychology and Agriculture) have only one member of staff.

The department of Chemistry has 3 members of staff.

The other departments have 2 members of staff.

As a result the staff, even more than at Witwatersrand University, perform the function of High School teachers rather than of lecturers.

COURSES OFFERED:

SCIENCE

1. Chemistry.
2. Botany.
3. Zoology.
4. Physics.
5. Applied Mathematics.
6. Physiology.
7. Hygiene.

ARTS

1. Bantu Studies.
2. English.
3. Latin.
4. History.
5. Geography.
6. Psychology.
7. Hollands.
8. Education.
9. Theology.

This is a narrow range of subjects, particularly when it is remembered that seven separate subjects are required for the B. A. degree and five for the B.Sc. degree.

The entire absence of a Faculty of Commerce, or any related departments, and the absence of Courses in the Social Sciences (politics, anthropology, economics, sociology) and in logic and philosophy should be noted.

RESEARCH:- Our information is that research is not carried out. One of the chief reasons for this is that the small staff is overwhelmed with teaching and administrative duties. Lack of finance is responsible for the small staff, the overloading of this staff, and the lack of the necessary equipment.

STUDENT OPINION:-

These views are based on the unanimous opinion of a number of our students who first studied at Fort Hare.

1. The library facilities at Fort Hare are very inadequate.
2. The cultural activity, which is a prominent feature of the Witwatersrand University student life, is of major educational value. This activity is neither of the same degree nor of the same value at Fort Hare.
3. The college is understaffed.
4. The range of subjects is too narrow.

SALARY SCALES:-

Evidence will be appended later. ^{see front sheet.} The scales are considerably lower at Fort Hare than at Witwatersrand University.

It appears from this evidence that certain of the defects of American segregated education have also emerged in the one virtually separate institution in South Africa.

3. SOCIOLOGICAL & PSYCHOLOGICAL ASPECTS OF SEGREGATION.

There is further evidence to be considered on Segregation. Most of it applies to its effects in general, but the report of

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the President's (U.S.A.) Committee on Civil Rights illustrates its findings with special situations.

1. The Commission on Community Inter-relations, an unofficial American Research body, recently took a poll of 849 social scientists. They were asked their opinion of the psychological effects of segregation. Leading members of the professional associations of Sociologists, psychologists and anthropologists were polled. Equal facilities for the different groups were assumed.

83% of the replies (60.9%) expressed the opinion that enforced segregation has harmful psychological effects on the race that imposes it as well as on the race against whom it is enforced. Their opinions were largely based on the fact that the inconsistent double standards of behaviour that are involved generate deterioration of moral values, coarser personal sensitivity, frustration, aggression, and the growth of guilt feelings.

2. Professor Guy B. Johnson shows that the isolation of races produces stereotype patterns in the minds of the isolated groups. From a great mass of evidence, he has constructed the picture of the Negro stereotype in the minds of ordinary whites. The stereotype, which we need not quote in detail, is no more than sub-human. Obviously, such thinking is damaging to the future of a multi-racial community. (In South Africa this stereotype completely ignores the emergence and the potentialities of the educated African.)

3. The President's Committee on Civil Rights has this to say, after researches into the attitudes of Officers and Men of the United States Army: the closer White soldiers, including Southerners, had been working with Negroes in combat Units, the more willing they were to accept integrated Negro platoons in White Companies as a good idea for the future. It was surprising how little the response of the Southerners differed from that of men from other parts of the country.

Their conclusion after studying groups of seamen in mixed crews, and inter-racial housing projects, is this:-

"Experience demonstrates that Segregation is an obstacle to establishing harmonious relationships among groups. It proves that where the artificial barriers which divide people and groups from one another are broken, tension and conflict begin to be replaced by co-operative effort and an environment in which civil rights can thrive."

4. The experience of the Witwatersrand University bears out this conclusion. Only healthier psychological attitudes can develop in a mixed Medical School. The fixed uninformed ideas and stereotypes, the guilt feelings, frustrations and aggressions in Europeans will persist and intensify if they are deliberately isolated.

The evidence presented is not encouraging for the prospects, in general, of restricted institutions for higher education. The probability of harm resulting in directions other than purely academic should not be forgotten.

6. SCHEMES FOR EXTENDING NON EUROPEAN TRAINING FACILITIES IN MEDICINE.

1. A new Non-European Medical School.
2. Parallel schools e.g. at Witwatersrand University.
3. A new multi-racial school and extension of facilities at old schools for Non-Europeans.

(1) A new Non-European Medical School.

This school would manifestly be open to the defects of segregated schools which have emerged from a study of such institutions. It might be said, however, that apart from the loss of important culture contacts, steps could be taken to avoid such results. We are sceptical that such steps will succeed. Experience elsewhere contra-indicates such an attempt. What would be required to ensure that a restricted but inferior educational institution is not set up? Obviously it is a question of finance. Sufficient would be required to provide adequate laboratory facilities, a staff paid on a scale equal to other institutions and no less in number (proportionately) as well as buildings and the large amount of equipment necessary in a modern Medical School.

While Witwatersrand Medical School is not yet adequately staffed, has not yet sufficient Research facilities and is badly housed, we shall examine its annual budget to find a standard of comparison.

The 1948 expenditure of the Witwatersrand Medical School is £144,957. Of course the size of a new School would not be as great, but it must be faced that in the course of development some such figure is what would be required, i.e. if responsibility for providing for natural growth is accepted.

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In addition, the school would receive very little direct money from fees. On the Witwatersrand University experience, practically every African student would have to be fully subsidised, i.e. both for tuition and subsistence.

Viewed in relation to the possibilities of obtaining such funds, the prospect is not hopeful. It is normally difficult to obtain finance for Non-European education in South Africa (whatever the intention of the Government of the time may be). It is normally difficult for any South African University to obtain sufficiently large subsidies (hence the rise in fees). Endowments are meagre at any time in South Africa and if, finally, we add that the financial position of the present time does not appear to encourage large public expenditure, it will be seen that such a scheme is faced with formidable difficulties.

Would such a school meet the needs of the country for many more Medical practitioners?

This is doubtful. We foresee financial considerations restricting the size of the school. It is the experience of the Witwatersrand University that overhead expenses do not appreciably diminish relative to an increase in size. A further limitation is likely to be the lack of sufficient candidates of the necessary quality to fill the present deficiency. We understand that the number of rejected applications from intending European Medical students in South Africa is in the neighbourhood of 1000 annually. We do not by any means argue that all applications should be met, but a restricted school would preclude the use of this material to supply our health needs.

Factors apart from Finance affecting Research.

The cultural opportunity of the African, at home and at school, is not such that it will promote the scientific enthusiasm that stimulates research. Student research is most genuinely stimulated by the temper of those teachers and students who are researchers themselves. Economic conditions tend to limit this group to those with comfortable financial resources and good educational background. A restricted school would cut off this stimulus almost entirely. Furthermore, the non-European, faced with the urgent curative needs of his own people, is unlikely to "dawdle by the wayside". Out of correct perspective, this is what work in scientific seclusion might appear to be. If Fort Hare may be used as an index, it seems improbable that the school would be built up on the sound foundation of research.

Inferior Degrees.

A possible danger, strictly to be guarded against, is that in a separate school Degrees not the equivalent of M.B. B.Ch. might be conferred. This step might be rationalised on the basis that at least it would be something, the best that could be done. This has been a practice in certain British territories (Sudan, Uganda). The similar scheme of "Medical Aids" has failed, apparently because there are few satisfactory appointments for the man who is almost, but not quite, fully trained.

The probabilities, then, are these:

Non-Europeans would suffer academically. Both Non-Europeans and Europeans would lose valuable culture contacts, would be open to greater psychological defects and would less readily understand their differing problems. The standards of the Medical profession might be lowered and Non-European practitioners discriminated against by the public and in obtaining appointments (as now happens in the United States of America).

(2) PARALLEL SCHOOLS.

The idea of a school parallel to, say, the Witwatersrand Medical School at Baragwanath, under the same staff and administration, meets with the objection that it will be neither efficient nor economical.

There is no justification at all, apart from a racial one, for the duplication of classes and equipment which this would entail in the first, second and third years. This means greater expenditure and more work for an already strained staff.

If the number of our Non-European students was greatly increased, it might possibly be justified to go forward with such a scheme. This should embrace no more than the fourth, fifth and sixth years, and essentially only their Clinical work.

Our students, both European and Non-European, would resent the loss of culture contact which such a scheme would imply. Furthermore, going by the experience of N.U.C. and Basteri, we do not foresee the good conditions necessary for the production of good physicians.

(3) A NEW MULTI RACIAL SCHOOL AND EXTENSION OF FACILITIES AT OLD SCHOOLS FOR NON-EUROPEANS.

/This.....

This appears to us to be the only scheme capable of producing enough physicians of good quality, European and Non-European, to meet the health needs of South Africa.

It would operate on much the same lines as our school has so successfully done. A slight increase of facilities for Non-Europeans at Witwatersrand University and the University of Cape Town, or a considerably heavier load of Non-Europeans at the new school, would meet the need for more Non-European physicians.

For reasons which emerge from previous Government reports, we favour Durban as the site for the new school. The School could then specialise in Tropical Medicine and Social Medicine.

As the Gluckman Report points out, one of the urgent Medical requirements in South Africa is a Medical School devoted to teaching and research in Tropical Medicine. This research would not, for reasons given earlier, be likely to emerge from a purely Non-European School. Furthermore, if it did, European students at Witwatersrand University would regard it as serious discrimination if they were not allowed to participate in such special and unique training.

An additional reason in favour of the Durban site is the possibility of establishing close contact and affiliation with the Clairwood Training Centre for Social Medicine. Such contact could lead to valuable research that would give direction to the National Health Scheme. Social Medicine is the most fertile field that has appeared for modern general Medicine, and Medical Education, producing practitioners for the future, must have its eyes on the future.

Conclusion - see over.

D. THE TRAINING OF NON-EUROPEAN DENTISTS

In this respect we have some criticisms to make of the Report of the Roberts Commission.

The Report says:- "The Committee visualises that by developing non-European treatment centres under the control of European Dental Hospitals but situated in adjoining native townships, clinical facilities for the training of non-European Dentists will eventually be brought about. When that time arrives, the subject of the establishment of separate non-European Training Dental Hospital will be a practical proposition and can be considered"

The establishment of a separate Non-European Training Dental Hospital is open to the same objections as is a Non-European Medical School. These we have previously outlined. But this approach to the problem, it seems to us, shelves it until a somewhat distant future. It is probable that it will be many years before a separate school can be established, considering the costs involved and the difficulties in financing even a sufficiently large new school at Witwatersrand University. Whereas, in spite of the ignorance and other peculiar factors which inhibit the demand for Dental treatment in contrast to the great need for it amongst Non-Europeans, the necessary clinical material for training a few students annually will surely be available much sooner than the funds to establish a separate school.

The Botha Report of 1938 took the view that Medical needs among Non-Europeans were much greater than the demand for services. And yet, since the ^{the} experience of Health Centres, and of Clinics which do not make Health propaganda, has contradicted this point of view. Such clinics and health centres have found that an essential service, once provided, creates a demand. Similarly, we believe that the demand for Dental Treatment will be rapidly stimulated and soon established where clinics such as that at Orlando exist. This will apply especially to housewives who do not have the difficulties (e.g. transport and obtaining leave from employment) of the men and women who work in the City, and even more so to Schoolchildren who could be treated by an organised service.

Like the Botha Committee, we hold as a matter of principle that Non-Europeans should be allowed to use their abilities to the full in the service of the community. We can see no difficulties whatever, once the Clinical material is available, in providing facilities for the training of Non-Europeans at Witwatersrand Dental Training Hospital as soon as a candidate presents himself. It should not involve any extra costs, particularly as the Orlando clinic must be able to provide the necessary clinical material before a Non-European student can be fairly admitted.

The Roberts Report recommends "that the training of Non-European Dentists be not regarded as a matter of urgency since, for some years to come, very few Non-Europeans are likely to present themselves for training -----". We believe that Africans will present themselves for training if Scholarships are established as in Medicine. It may be argued, however, that such Scholarships will draw off Africans from the limited number available for the more urgent needs of Science Teachers, Doctors, etc. This must be considered, although there is no evidence to show that the need for Dental treatment among Non-Europeans is not urgent. However, it is probable that if the Witwatersrand Dental School is opened to Non-Europeans and this information becomes known, there will soon be applications, for example, from the wealthier classes of Indian.

/In.....

In view of the fact that the admission of such students, once the clinical material is available, should require practically no re-organisation at all, we can see no valid objection to opening the doors of the Witwatersrand Dental School to Non-Europeans.

CONCLUSION:-

It appears therefore that the only rational scheme to meet the need for Non-European practitioners would be a new multi-racial school. This school would meet other urgent needs that could not be met in any other way - it would be a Research Centre with valuable clinical material in Tropical and Social Medicine; it would greatly relieve the demand for more practitioners among the Non-European population, whether under the National Health Scheme or not, and would supply the necessary facilities for the demands by European students for Medical training.

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SECTION III.

THE FINANCIAL POSITION OF MEDICAL STUDENTS
AND OF THE MEDICAL SCHOOL.

Contents:

1. THE STUDENT. (a) The Fees paid by Medical students.
(b) The Financial Position of Medical students, apart from Fees.
2. THE MEDICAL SCHOOL. The Future of the Medical School.
3. RECOMMENDATIONS.

1. THE STUDENT.

(a) THE MEDICAL STUDENTS' FEES AT THE
UNIVERSITY OF THE WITWATERSRAND.

The fees paid by Medical students cannot be considered apart from the wider problems of students' fees generally and of the financing of Higher Education. In this memorandum, therefore, attention will have to be given to the broader problems as well as to the more specific financial difficulties of Medical students.

(1) A first year student entering the Faculty of Medicine of the Witwatersrand University in 1949 is faced with the prospect of paying the following fees:

Year:	1st	2nd	3rd	4th	5th	6th	
Fees:	84	84	84	78	78	78	(<u>Table 1.</u>)

These fees are the highest payable in any faculty at any University in South Africa. The fees have been raised three times since 1935, but we will concern ourselves here mainly with the more recent changes.

(2) In 1942, the fees were as follows:

Year:	1st	2nd	3rd	4th	5th	6th	
Fees:	60	60	60	55	55	55	(<u>Table 2</u>)

Even at that level, the medical fees were already among the highest in the British Commonwealth.

(3) Towards the end of 1942, it was announced that students' fees would be increased by 20% in the following year. The background to this step was as follows:

Under the State subsidisation formula, an absolute maximum for the State grant had been enforced (1938-39). This ceiling was reached by the Witwatersrand University in the very first year of the restriction and, in subsequent years, the fixation of the State grant at that level (except for certain minor special grants) effectively maintained the University of the Witwatersrand in an impoverished state and impeded its legitimate expansion. As an instance of the way in which this formula operated, we cite the example given by Professor A.C. Gilliers ("The State and the Universities (1910-1943)" - 1944): he pointed out that in 1930, when its student-roll numbered 1618, Witwatersrand University received a grant of £100,465, whereas in 1943, when its student-roll was 2682 (i.e. 1064 more!) it received only £103,427.

As the State grant remained fixed, it was not surprising that the Witwatersrand University, squeezed against the financial ceiling, suffered an annual deficit from some years before 1936. The 1935 rise was an attempt to offset this deficit, but the annual shortfall continued until at 31st December 1943, the accumulated deficit was estimated at £23,079. Mainly because of this deficit, the University authorities were again obliged, after many fruitless attempts to obtain an increased State grant, to raise all students' fees by 20% in 1943.

The fees for the medical course were thenceforth as follows:

Year:	1st	2nd	3rd	4th	5th	6th	
Fees:	72	72	72	66	66	66	(<u>Table 3</u>)

Thus, because of the stationary State grant and because of the rising students' fees, we find that, whereas in 1930 the State contributed 53.5% of the total revenue of the Witwatersrand University, in 1943, the State's contribution was only 32.4%

The increase in fees caused great dissatisfaction among the students of the University. They agreed to pay the new scale of fees only on condition that the Government investigate the finances of the University and increase its grant.

(4) The outcome was the appointment of a Commission of Enquiry, consisting of Sir Robert Kotze and Professor J.P. Duminy. They were asked to report on the financial position of the Witwatersrand University. The Commission's Report was completed in September 1943. Among the points made by the Commission were the following:

Clause (9) - 30:

Principal sources of revenue for 1943:

1. Student fees	£159,386
2. Other sources	41,518
3. Government grants	103,000
	<u>£303,904</u>

- 31: It will be seen from these figures that by far the largest source of revenue of the University is the yield from students' fees.
- 32: The fees represented 27% of the total revenue in 1922 and 41% in 1934. They were raised twice (in 1935 and 1943) and now yield 53% of the revenue. This figure of 53% was based upon an estimate; the final figure for 1943 was 50%.
- 33: The fees are the highest of any University in South Africa and also yield the highest percentage of the total revenue.
- 34: In the United Kingdom, students fees yield 24.1% of the revenues of comparable universities.
- 35: Judged by these standards, the fees are too high. They should be reduced to a more reasonable level as soon as possible.
- 36: A fair level for the fees would seem to be that at which the yield would be about 40% of the revenue or if possible less.
- 54: The University has been unable to provide the full staff and equipment required for the efficient performance of its functions, and for this purpose a larger annual revenue is needed.
- 56: We are satisfied that the Government grant is inadequate for the present needs of the University, and that it has been inadequate for several years past.
- 59: The country requires competent doctors, engineers, and other professional men, besides men of culture in the arts and sciences. The University should also be a fount of inspiration in research of all kinds. It cannot fulfil these functions satisfactorily on an insufficient revenue. The Government grant should be increased to eliminate the annual deficit and to provide more adequately for the needs of the University.
- 60: A larger grant is needed.
- 61: The total Government grant needs to be increased by about £56,000.
- 64: Students' fees are of the nature of a tax and have strong claims on a pound for pound grant from the Government.
- 73: The University would gain little advantage from having an endowment fund if the State grant were assessed on a basis which restricted or reduced the grant when the endowment revenue rises. If the grant were limited to the amount needed to bring the total revenue up to what might be deemed by the Department of Education to be the University's requirements, that total would not be increased by a larger endowment. For if the endowment were to rise the Government grant would then be correspondingly diminished, and the University might just as well have no additional endowment at all.
- 74: This feature militates strongly against any donations by other bodies or persons.
- 76: There should therefore not be a maximum as was devised to limit the Adamson Formula.

Despite the recommendation that the State grant should be increased by £56,000, the Minister increased the grant for 1944/45 by only £22,000, of which only £16,500 were set aside for the calendar year 1944. This step enabled the University Council to afford students some slight measure of relief; they reduced to 10% the fee-supplement imposed in 1943, in the case of students who, in 1944, were in their third year of study. For all others, that is, students who entered the University in 1943, 1944 or thereafter, the fees remained at the level of the 20% increase i.e. £72, £72, £72, £66, £66, £66.

The Kotze-Duminy Commission also recommended certain modifications in the formula; the main recommendation was that the ceiling of £100,000 which had been imposed in the financial year, 1938-39, should be abolished. The Minister found himself unable to accept these recommended changes in the formula, because the formula affects all universities, whereas the finances of only one had been investigated. Accordingly, the Minister appointed another Commission of Enquiry into the finances of all the Universities (Du Toit Commission, 1944).

(5) Subsequent changes in the State grant were not sufficient to enable the University to restore the old level of fees. Despite a rise in the subsidy to £170,000 in 1947-48, together with a further sum of approximately £80,000 in respect of ex-volunteer students, it was again necessary for the University Council to raise the fees in 1948. Thus, from that year, new students entering the Faculty of Medicine have paid the following schedule of fees (ex-volunteer students have been exempted from this latest increment):

Year:	1st	2nd	3rd	4th	5th	6th
Fees:	84	84	84	78	78	78

(Table I)

This fee-scale represents an increase of £24 on the pre-war fees, in each of the first three years of the Medical Course, and £23 in each of the last three years of the Course.

(6) Some indication of the disproportionate contribution of students' fees towards total University revenue is afforded by a comparison of the figures for Witwatersrand University with those for South Africa and with those for other countries alone:

.../ Percentage

Percentage of University Finances
Derived from Students' Fees in 1939.

United Kingdom	24.1%
Australia	31.74%
Canada	32.8%
South Africa	37.62%

(Table 4)

Percentage of University Finances
Contributed by Students' Fees.

	<u>South Africa.</u>	<u>Witwatersrand University.</u>
1939	37.62%	45%
1942	44.1%	45%
1943	43.0%	50%
1947	?	49%

(Table 5)

It is clear from these tables that the proportion of South African university revenue derived from students' fees, which already in 1939 was among the highest in the world, has been rising considerably since then. This fact renders the figures in the second column of Table 5 all the more striking, for they show that at the Witwatersrand University, the fees contribute a much greater proportion of total university revenue than the aggregate figure for all South African Universities. Since 1943, about half the total revenue of Witwatersrand University has been derived from students' fees. The Kotze-Duminy Commission had recommended that this figure should be 40% or less; while in the United Kingdom, the corresponding figure for 1946-47 was 23.2%, an actual improvement on the 1939 figure of 24.1%

Conclusions: These figures, we hold, prove abundantly that

- (i) Students' fees are contributing an inordinately large proportion of the total University revenue at the Witwatersrand University.
- (ii) The contribution from students' fees has been rising for some time, while the State's relative contribution to higher education has been falling for many years.
- (iii) The rises in fees at the University of the Witwatersrand have set the fees at an even more prohibitive level for the majority of the people of South Africa; higher education has become very definitely a luxury confined almost exclusively to the upper-middle and upper income groups.
- (iv) The existence of a ceiling to the State subsidisation formula, and the constant short-term changes in the State's grant, have placed the University in a position where it does not know from year to year what the grant will be in the ensuing year, let alone a reasonable period of five or ten years. In fact, the University only received an estimate of its grant for 1948 in January 1949. This unpredictability makes for a great measure of financial uncertainty and insecurity; it follows that, in order to ensure its immediate future, the University has been obliged to impose the latest increment in the fees. This is essentially, however, a short-term expedient designed to keep the University's head above water for the next year or two at the most.

(b) THE FINANCIAL POSITION OF MEDICAL STUDENTS,
APART FROM FEES.

The figures of the University fees are sufficiently telling on their own to establish a case for their reduction. We need only point out that this fact was recognised by the Hon. the Minister of Education, during the Parliamentary Debate on the Education Vote last September. University fees, he stated, had risen to nearly five times the amount he had paid when he was a student and that development could not be allowed to continue.

However, apart from the fees he pays, the Medical Student has certain special financial difficulties coupled with which, the high fees probably affect him most of all categories of students. It must therefore be borne in mind that numerous demands are made on the pocket of the medical student, which greatly strengthen the case for a reduction in fees:

- (i) The figures quoted for fees do not include the cost of board and lodging, which is very high in Johannesburg to-day.
- (ii) Further, living expenses generally have risen considerably.
- (iii) In addition, the Medical Student is called upon to purchase numerous expensive medical books and items of equipment.
- (iv) The Medical Student is obliged to pay living-in fees at the various hospitals and clinics at which it is stipulated parts of his medical course are to be conducted. For example, at the Queen Victoria Maternity Hospital, medical students spend a period of three weeks at a cost of £2.2.0. a week; at Grey's Hospital in Pietermaritzburg the fee is £3.7.9. a week and at King Edward VII Hospital in Durban, a similar fee is charged; and the student in addition has to pay his own train-fare (approximately £3.10.0. to Durban; £3.7.0. to Pietermaritzburg); the costs of living-in at the Alexandra Clinic are £2.3.0. a week. While each of these sums in itself is not exorbitant, taken collectively, they may add another £20 or £25 to the student's financial responsibilities in his senior clinical years. It is an important consideration too, that the student may spend 5 weeks out of a 10 weeks term away from the Medical School for these living-in courses and yet be expected to pay his full fees to the University for a term's tuition. A similar statement applies to the payment of University Residence fees during the student's absence on these courses. In the near future, a period of five weeks will have to be spent in Gynaecology at the Baragwanath Hospital at £2.0.0. a week; during this period, the student is still liable for his full University and Residence fees.

.... / (v)

(v) Finally, there are numerous small fees and charges which, collectively, add appreciably to the student's liability.

These facts are mentioned because they show clearly that the student embarking upon a medical course is confronted with the prospect of budgeting for a much larger sum than the fees themselves would suggest. He has to budget for a six-year course, fees, board and lodgings, living expenses, books and equipment, sundry extra charges and fees as mentioned above. This budget is beset with difficulties attendant upon:

(a) the fact that the medical course is tantamount to a seven-year one, when the housemanship year is considered, a year during which the intern's remuneration is very meagre and in which loans cannot therefore be repaid.

(b) the short vacations of medical students, coupled with their extremely crowded curriculum, which do not allow medical students any substantial period of time in which to supplement their income by vacation-al and part-time employment.

Bursaries:

Bursaries and Scholarships are available (i) from endowment funds; (ii) from general funds and (iii) from other sources, such as Municipalities and the Chamber of Mines.

The award of many bursaries from endowment funds and from other sources is governed by restrictive clauses, e.g.

the Heymann-Gordon Scholarship and the Louis Landau Bursary for students of Hebrew;
the Henning Jennings Scholarship, for B.Sc.(Eng.);
the Lt. L.A. Carnovski Bursaries for African students, mainly in the faculties of Arts and Commerce;
the Barnato Scholarship, for B.Sc. (Eng.);
the Beit Railway Trust Engineering Scholarship, for Engineering students (Rhodesians).
the Fulcrum Scholarship, for B.Sc.(Eng.);
City of Johannesburg bursaries, for students resident in the Johannesburg Municipal area for at least two years.

Of the bursaries from General Funds, in 1948, two were awarded in the Faculty of Arts, Fourteen in Engineering, Nine in Medicine, and Seven in Dentistry. The total value of these bursaries was £1311, the amount awarded to each student ranging from approximately quarter of the fees to the full tuition fees for the year. The two factors which are taken into account in the consideration of applications are the financial position of parents or guardians and the University or Scholastic records.

These bursaries are derived as follows: the University Council makes available £300 per annum, and any accumulated balances from the Johannesburg Municipal bursaries and scholarships are added to this amount. There is a number of African Medical Scholarships awarded by the Union Government, the Administrations of Basutoland, Bechuanaland, and Swaziland, and the Ciskeian and Transkeian General Councils.

We feel that the number of bursaries is insufficient for the number of students in the University. In particular, we cite the figure of nine bursaries from General Funds to the entire Medical Faculty whose enrolment is well over 1000 - as being most exiguous, even when account is taken of the municipal and other bursaries which were awarded to Medical Students in 1948.

We believe the students of the University should be drawn from all economic classes in the population. If the student body is drawn, as at present, mainly from a section of the population restricted to the upper economic level, then the demand for bursaries will naturally be limited. Conversely, the limitation of bursaries will contribute towards maintaining this situation of a Student Body drawn predominantly from the upper economic level. It follows that an important step towards the ideal of a Student Body which is drawn from the best available people of all economic classes is the provision of a much greater number of bursaries, and particularly, of more State bursaries.

We recommend that a larger number of bursaries be made available to students, and that these awards include maintenance grants. We recommend that a system of State bursaries be instituted, and that, in particular, special provision be made to award more bursaries to Non-European students by reason of their lower economic level. We regard the provision of a much greater number of bursaries as an essential supplement to a reduction in the fees, as the means whereby higher education may become available to the lower economic levels of the population.

2. THE FUTURE OF THE MEDICAL SCHOOL.

Having considered the position of the individual Medical Students, we wish to make a few comments upon the future development of the Medical School in the light of the financial position.

It is our contention that the Medical School cannot expand in conformity with the demands which are made upon it unless there is a re-orientation of State policy towards higher educational institutions generally.

The main features of this re-orientation which we feel are essential are:
(1) That the State grants should be increased and that, in pursuing this end, consideration might be given to the following possibilities:

...../ (a)

- (a) Removal of a ceiling from whatever new formula/ae may be devised.
- (b) The practice of a single formula covering all universities and university colleges be discontinued in favour of a series of formulae or grants moulded to the particular requirements of the larger centres, the middle-sized centres and the smaller centres.
- (c) Requests to the Universities be exempted from taxation.
- (d) The setting up of a University Grants Committee, along the lines of that in the United Kingdom.

(2) That whatever new formula/ae be devised, they shall be of a fairly elastic nature, permitting of the development and expansion of the universities over a period of years, say five to ten years. This far-sighted policy is essential if the Universities are to have that financial security which we hold must precede any expansion of the Universities.

The expansion envisaged does not necessarily apply to the number of students. It does apply (1) to the academic staff, which needs to be increased in order to cope adequately with the present work, and in order to enable the staff to give more time to research work, rather than almost exclusively to confine themselves to tutorial and administrative work as at present;

(ii) to the available accommodation, which is quite inadequate for many of the existing departments. Particularly is this true of the Medical School where there is an urgent need to alleviate overcrowding, provide further accommodation, and increased staff and equipment. In 1943, the Kotze-Duminy Commission stated: "In the Medical School, particularly, we were given ocular evidence of the overcrowding, and of the urgent necessity of providing further accommodation, as well as increased staff and equipment." And again: "The Medical School is deemed to be in need of the following additional staff:- 4 Professors, 5 Senior Lecturers, 12 Lecturers, 21 Assistants, several part-time Lecturers."

(iii) to the establishment of new departments and new courses for which the need arises from time to time.

(iv) to equipment and facilities necessary for teaching purposes and for research work.

Such expansion must of necessity be undertaken not in an ad hoc manner annually, but as part of a long-term programme of expansion.

Finally, we would add that, while there is a crying need for this expansion, the present basis of subsidisation not merely stifles any possibility of such expansion, but it is not even sufficient for the maintenance of the University and the Medical School on an adequate standard.

3. RECOMMENDATIONS.

- (1) There is an immediate and imperative need for the trend of rising fees to be stopped.
- (2) It is necessary for the students' fees to be reduced appreciably.
- (3) As, under the present system and the present scale of fees, Medical Students are more severely handicapped than any other group, an immediate reduction in Medical Students' fees should be among the first steps taken.
- (4) In order to effect (1), (2), and (3), it is the State's urgent responsibility to increase its grant to the University to such an extent that the trend of rising fees will be stopped and, further, and much more important, that the University authorities will be enabled to reduce the fees to a lower level. We are deeply conscious of the privileged position which the student - and particularly the Medical Student - occupies at the University, and we feel that the limitation of this position to the upper income groups is a state of affairs most strongly to be condemned. We therefore urge that immediate steps be taken by the State to place the University authorities in a secure financial position where they may reduce the scale of students' fees.
- (5) It is recommended that the State adopt a more far-sighted policy for higher education than has hitherto been in evidence, namely that it should devise its subsidisation basis in such a manner that the larger centres are not penalised in favour of the smaller centres (as has hitherto been the case) and in such a way that it will not again be necessary for the basis of State subsidisation to be reviewed and revised after a year or two.
- (6) It is recommended that the State should give sympathetic consideration to the special needs of the various centres and adjust its grant in accordance with these needs.
- (7) It is recommended that the State exempt endowments to the Universities from taxation.

SECTION IV.

Student-Patient Ratios.

For adequate teaching there must be a sufficient number of beds available, so that a wide enough range of clinical material be presented to the student. Furthermore, patients are thereby helped, as, if there are enough, the likelihood of their overexamination becomes reduced. Estimates of this sufficient number have been given by the Goodenough Commission, who recommended that, in a General Hospital, there be 950-1000 teaching beds for every 100 students entering the clinical years. The University of Birmingham have independently adopted the same standard. Furthermore, the Goodenough Commission have indicated a suitable distribution of beds amongst the various departments, and their allocation is:-

<u>Departments.</u>	<u>Beds.</u>
General Medical	250
General Surgical and Orthopedic	250
Maternity (including ante-natal)	100
Gynaecology	50
Pediatrics	100
Specials	150-200
Special therapeutic beds for people requiring residence e.g. for Radiotherapy	50
	950-1000

By courtesy of the Superintendent of the Johannesburg General Hospital, certain figures for the Johannesburg Hospital Board have been made available.

Table I shows the total number of beds in the component hospitals of the Board and their division into teaching and non-teaching beds, and the reason why the latter are not available for teaching. These figures are for 1947; in addition the estimated total for 1950 is included.

Table I

Hospital	Total (1947)	Teaching	Non-teaching	Reason	Estimated total (1950)
<u>European.</u>					
General	701	508	193	Pte cases	750
Queen Victoria	104	104	-	-	140
Childrens'	207	157	50	Pte cases	207
Tara	150	-	150	?	150
Otto Beit	52	-	52	convalescents	52
Baumann	26	-	26	convalescents	26
Total	1240	769	471		1325
<u>Non-European.</u>					
N.E.H.	42	42	-	-	42
Princess Alice		clearing station only			
Coronation	470	470	-	-	470
Baragwanath	1100	1100	-	-	1300
Total	1612	1612	-	-	1612
GRAND TOTAL	2852	2381	471	-	3137

Table II gives the 1947 allocations of beds to the various departments, without any reference to whether they are teaching beds or not.

Table II

Department	Beds		Total
	European	Non-European.	
General Medical	208	500	708
General Surgical (Orthopedics)	186	540	726
Obstetrics	104	80	184
Gynaecology	46	120	166
Pediatrics	207	included in Medical, surgical & other figures	207+
Others	489	330	819

In addition, there are 42 emergency beds in N.E.H.

Student enrolment for the years 1948 and 1949 are given in Table III

Table III

Year	4th	5th	6th	6½	Total.
1948	204	133	125	19	481
1949	170	204	134	20	

- and Table IV gives the numbers of ex-servicemen and civilian students in each year of study in 1948.

Table IV

Category	4th	5th	6th	6½	Total.
Ex-servicemen	76	33	8	1	118
Civilian	128	100	117	18	363

From these tables it can be seen that, exclusive of those doing 6½ year, there were in the three clinical years 483 students in 1948, and there are 508 students in 1949. These large numbers are the direct result of the post-war influx of ex-servicemen, the bulk of whom are now in their 5th year of study (Tables III & IV). As a result, assuming that civilian admissions to the Faculty of Medicine remain almost constant at 100-120 per year, the present huge classes will have vanished by 1953. Table V gives a rough estimate of this change:-

.../Table V.

Table V

Year	4th	5th	6th	6+	Total
1949	170	204	134	+20	528
1950	130	170	204	+20	524
1951	100-120	130	170	+20	420-440
1952	100-120	100-120	130	+20	350-390
1953	100-120	100-120	100-120	+20	320-380

For comparison with the Goodenough Commission's standards, the total number of students in 4th, 5th and 6th years will be averaged, the figure so obtained being regarded as the number of students entering the clinical years. Table VI gives these averages:-

Table VI

Year	Average
1948	154
1949	169
1950	168
1951	133-140
1952	110-123
1953	100-120

On this basis, then, the ratio of the number of beds to each 100 students entering the clinical years is (Table VII):-

Table VII

Year	1947 figures						1950 figures		
	total beds.			teaching beds			Total beds		
	E.	N-E	Total	E.	N-E	Total	E.	N-E	Total
1948	850	1047	1852	499	1047	1546	860	1177	2037
1949	734	954	1688	455	954	1409	784	1072	1856
1950	738	960	1698	458	960	1418	789	1079	1868
1951	886-932	1151-1212	2037-2144	549-578	1151-1212	1700-1790	1104-1125	1473-1647	2259-2352
1952	1000-1127	1311-1465	2319-2592	625-699	1311-1465	1936-2164	1027-1205	1473-1647	2259-2352
1953	1033-1240	1343-1612	2376-2852	641-769	1343-1612	1984-2381	1104-1325	1512-1812	2262-2437

Table VII shows that on the 1947 figures, the Goodenough Commission's standard is never attained with European patients alone, that it is always attained and often exceeded with Non-European patients alone, while with combined European and Non-European patients, the students may be regarded as exceedingly fortunate. The distinction between European and Non-European students has been drawn because the distance of Non-European hospitals from Medical School does much to offset the benefit which the numbers have to offer. For most of the week only the European teaching facilities are easily available.

On the 1950 estimates, and making allowance for non-teaching beds, not even in 1953, will European patients alone satisfy the Commission's standard. Aside from this, however, the total student-patient ratio is even more favourable on this scale than on the 1947 scale.

Distribution of teaching beds to the various departments can be seen from Table VIII, in which the percentage distribution of beds recommended by the Commission is compared to that existent in the Johannesburg Hospital Board.

Table VIII

Department	Recommended %	Existent % (1947)
General Medicine	25	25.0
General Surgery (plus Orthopedics)	25	25.8
Obstetrics	10	6.3
Gynaecology	5	5.9
Pediatrics	10	7.3
Other	25	29.7

Points to note from this table are:-

1. The percentage for Surgery is even higher than here shown, as Orthopedic beds under the Board are included under the heading "Other"
2. Students receiving clinical training in 1949, 1950 and 1951 will be the most heavily penalised, taking into account their large numbers and the comparatively unsatisfactory nature of non-residential training in hospitals far from Medical School. It is therefore recommended that special care be devoted to enabling these students to reach these distant hospitals and to carry on some degree of uninterrupted study there.
3. Inclusive of Obstetric beds outside the hospital board, the allocation of teaching beds to the various departments approximates that recommended by the Goodenough Commission.

Student-Staff Ratios

In the absence of adequate figures only general comments can be made. A sufficiently large number of staff is absolutely necessary, so that, sharing teaching, administrative and hospital work between them, they may have enough time to conduct their own researches and keep abreast of the recent literature. Both these latter aspects are essential in an efficient training institution.

SECTION V.

STUDENT RESEARCH.

In every class of Medical Students are those students of enquiring mind who are interested and eager to increase their experience by carrying out research. We feel that these students should be given the opportunity and the facilities to do research, although we recognise that first place should be given to the research work of the members of the academic staff.

It is our experience that in the pre-clinical Departments of the Medical School, adequate provision is made for the interested student to apply himself to learning a technical procedure or doing research into a problem. In the Departments of Anatomy, Physiology and Bacteriology, it is possible for the student to study for one or more additional years in order to complete a Medical Baccalaureate of Science.

In the Clinical Departments, however, little provision is made for the research-minded student. We feel this to be a drawback as the need for research-workers and for medical practitioners of a scientific and enquiring turn of mind is very great. Every encouragement should be given to such students, including practical guidance, facilities and equipment, and, if necessary, the Department concerned or the University authorities should be prepared to place funds at the disposal of responsible students for carrying out research work.

We recommend most strongly that facilities should be provided for interested students in the Clinical years to do research, as an important supplement to their clinical training.

SECTION VI.

COMPULSORY INTERNSHIP.

It is our belief that at present a period of compulsory internship is both desirable and necessary. The period of internship should:-

1. Provide for the acquisition of practical skill and experience under supervision.
2. Result in a feeling of confidence arising out of the responsibilities of the work, not at present met with in student training.
3. Allow the intern to advance his knowledge.

It is our contention that the S.A. Medical and Dental Council has recognised hospitals in which it is impossible for the above conditions to be fulfilled e.g. small mission hospitals in which supervision is absent or minimal. It is essential for the successful fulfilment of the scheme that the S.A. Medical and Dental Council lays down certain minimum requirements to which hospitals must adhere. Such requirements should include:-

1. The presence on the staff of practitioners of sufficient experience and competence as to be able to instruct and train interns.
2. Adequate laboratory, pathological and radiological facilities.
3. A maximum number of patients per intern.
4. Suitable hours of work, paying attention to the fact that the intern should have time for study. It is felt that it is in the patients' interest that interns should be in a fit physical and mental state to attend to their duties and that overwork should be eliminated.

Unless such requirements are met, it is felt that the internship period fails in its purpose.

Salary of Interns: We consider the present salary for interns totally inadequate. Realising that benefit accrues to the intern from the fact that he is learning, we do not claim that interns should be remunerated according to the full value of their work, but that a mean should be struck between the value of the work to the hospital, and the value of the experience to the intern.

We quote from a statement made by the President of the South African Medical and Dental Council, Dr. Karl Bremer, from the minutes of the meeting of the Council in September 1947:-

"In view of the fact that Resident Medical Officers would have completed a course of study extending over six years, he would regard it as all to the good if the amount (paid to the Resident Medical Officers) could be raised considerably above £10. and would not regard a remuneration of £30. per mensem as excessive"

We feel that a salary of £30 p.m. plus privileges would be a bare minimum. We should like to point out that this increased expenditure would be negligible in relation to the total expenditure on hospitals.

SECTION VII.

SELECTION OF STUDENTS.

A noted authority on medical education enumerates in order of importance the following qualities desirable in the medical student:-

1. Character
2. Attitude
3. Aptitude
4. Knowledge.

While agreeing wholeheartedly with him, it is obvious that at present no machinery exists for a method of selection along these lines.

Under the present system, the selection of medical students must primarily be on an economic basis (refer to Section III of this memorandum) With entry to the medical profession thus already greatly curtailed, we proceed to make an arbitrary education test (the Matriculation examination), the basis for the selection of those not excluded through economic disabilities; thus applying the test of the fourth quality only, and disregarding the three more important qualities in those who can pass the economic barrier. Although this method is obviously undesirable, we submit that at present there is no substitute which will not involve personal prejudice. Therefore, we recommend research into objective methods of selection which will pay due regard to character, aptitude and knowledge.

We would stress that whatever method of selection is adopted, be objective in character and take no cognisance of race, colour, or creed.

SECTION VIII.

STUDENT HEALTH, HOUSING AND RECREATION.

1. Housing of Medical Students.

The following figures for the year 1948 taken from the records of the University, indicate the number of students living in hostels, lodgings and at home.

First Term:

	<u>Males</u>	<u>Females</u>	<u>Total.</u>
Hostels	59	42	101
Lodgings	158	40	198
Home	445	127	572
	<u>662</u>	<u>209</u>	<u>871</u>

Second Term:

Hostels	59	42	101
Lodgings	142	39	181
Home	423	123	546
	<u>624</u>	<u>204</u>	<u>828</u>

From these figures it is apparent that about 190 students were living in lodgings in 1948. It is known that accommodation in lodgings is in many cases inconvenient and expensive. However, for want of more suitable accommodation, many students not resident at home during their period of study must of necessity make use of what accommodation is available.

The hostels do not provide nearly enough accommodation for the requirements of students, and a further drawback is that the hostels are not near enough to the Medical School and hospital. For the many students without their own transport, it is essential that they live in close proximity to the Medical School. This becomes especially important to those in the clinical years of study, during which time most of the teaching and work is done in the hospital. The Cottesloe University Residence is an example of a place very inconveniently situated for the Medical Student and therefore will not solve the problem of those students who must live close to their work. Of those students living in residence i.e. University hostels, there is the particular problem of the woman medical student, who on entering her final year of study, must leave the Hostel, and seek accommodation elsewhere. These people are usually hard put to find suitable lodgings. Their problem merits particular attention.

Of the students living in lodgings, a number are accommodated in private houses, while a considerable number rent rooms in various buildings situated within easy reach of the Medical School. It is more economical to live in a private house than it is to rent a room in a building. The reason for this lies in the fact that meals are provided for the most part in the homes, while those living in buildings must in most cases, eat in restaurants. This fact means that the student lodging in a building spends relatively more money on meals and this means that living expenses are considerably higher. Not only is there the very important and vital problem of food with its direct bearing on the health of the individual, but there is also the question of laundry which provides no end of trouble to the unfortunate student living on his own. No one who has not experienced living under these conditions can appreciate what real and trying problems these are. Under these circumstances it is often a difficult task making ends meet.

Furthermore, regarding those students boarding in private houses, there is often the burden of being situated a long distance from the Hospital and being without their own transport to remedy this. But mainly because of financial reasons they must perforce accept this position.

For those students living in rooms and eating in restaurants, a minimum of £15 per month is required to meet the cost of living. Compare this with the monthly cost in a University Hostel of about £10 per month. This means that a considerable reduction in the cost of living would result if there was suitable University Hostel accommodation for those requiring it. The figures indicate that there is a definite and immediate need for such an establishment in close proximity to the Medical School and Hospital. A significant part of the medical student body would indeed be grateful for such a solution to the problem of their accommodation. The existing University Hostel accommodation is both inadequate and unsuitable. Even if the number of medical students in the future decreases, and no doubt this will happen, the necessity for a suitably situated medical residence will be of the greatest importance. There will always be a significant number of students requiring accommodation, and a Medical Residence of the type suggested, will solve the housing problem of these students.

2. Recreation of Medical Students and contact with students in other Faculties.

1. Medical students as a group have far less time for recreation than other University students. Thus is it all the more necessary that facilities should be provided for them within easy reach.

At present at the Medical School, the facilities offered are totally inadequate. They consist of common room for men and for women students. Both are grossly overcrowded and seating accommodation is at a premium. There is no stretch of open ground, and no lawn or shade available. Students not in lecture rooms or in the overcrowded common rooms, are thrown into the streets, and frequently are compelled to eat their lunch there. This situation is obviously grossly unsatisfactory for the physical and mental well-being of the medical student body; and should be treated as a matter of urgency.

Adequate facilities for recreation must be provided for medical students. The immediate needs are for a piece of open ground with lawn and trees; for squash courts, a gymnasium and a swimming bath. Facilities such as these are available at the University, Milner Park, but frequently these are of little value to the medical student due to the distance between the University and Medical School, and to the fact that the medical student only has short periods of time available for recreation.

We therefore unreservedly state that the provision of some form of recreational facilities for medical students is an urgent necessity.

2. A refectory, run by the students as a non-profit making organisation, caters for the needs of both students and staff. It is inadequately housed, but efficiently run, and provides excellent meals at reasonable cost.

3. Medical students have contact at Medical School with students in the Dental faculty, and with a number of students in the faculty of Science (most of whom are medical students taking one or more courses in the basic medical sciences).

All University student societies have branches at the Medical School, and a considerable number of meetings are held, usually during the lunch-hour. However, owing to the distance between the two institutions, medical students only rarely have contact with students of other faculties.

3. Health of Medical Students.

There exists a Students' Benefit Society of which all students are full members. The membership fee is £1. and is included in the composite fee. Medical students are entitled to full use of the Clinic, but are not "full members" of the Benefit Society. The revenue received from medical students is 10/- per capita per annum.

All students including medical students are entitled to a full periodic health examination once yearly at the Benefit Society Clinic.

Full members are entitled to claim refund benefits from the Society for medical expenses incurred, whereas medical students are not entitled to these benefits. The reasons for this are:-

1. Medical students are usually granted free treatment by qualified members of the profession.

2. Medical students are entitled to receive free treatment in the Johannesburg General Hospital.

It is admitted that isolated instances do occur where a medical student has to face considerable expense on the grounds of medical expenditure. The Students' Benefit Society is unable to assist such cases. Medical students may be referred by the Clinic to any member of Staff or department of the Medical School or of the General Hospital. If it is thought necessary by the Clinic or desired by the medical student himself, he is referred through the proper channels to a private doctor. A fee is seldom or ever charged in such cases.

Inoculation against the various infectious diseases to which the student is exposed is given by the Clinic. Special investigations for medical students are conducted by the S.A.I.M.R. through the clinic without any charge.

Those medical students in the Residences share fully in all the benefits accruing to their particular residence.

ERRATA.

(9)

- p 1. par. 3, line 1 than to read then.
- p 1. par. 6, line 2, time to read true.
- p 1. par. 7, line 2, insert assume.
- p 1. par. 9, line 2, Invertetrate to read Invertebrate.

- p 2. par. 7, line 6, linguistus to read linguistics.
- p 2. par. 7, line 8, seen to read seem; forein to read foreign.

- p 5. par. 4(c) line 3, hemiphegia to read hemiplegia.

- 3. Recommendations. line 2, delete "the"

- p 9. par. 8, Opinions. line 5, engenic to read eugenic

- p 12. par. 7, line 2, words to read wards

- line 3, mere to read these.
- par. 3, line 4, insert "large group of" after when the first.....
- 3. par. 7, line 4, delete "our" after maintain.

- p.15. Appendix to "Fort Hare"

TABLE II.

Salary Scales for Fort Hare and Witwatersrand University.

Fort Hare:

Professor	£750 x 50	-	£1000
Senior Lecturer	£550 x 25	-	£750
Lecturer	£450 x 20	-	£650
Assistant Lecturer	£250 x 20	-	£450

Witwatersrand:

Professor	£1100 x 50	-	£1400
Senior Lecturer	£800 x 40	-	£1000
Lecturer	£550 x 25	-	£800

It should be borne in mind that factors such as general scales of pay on the Band as compared with the Eastern Province enter into the difference reflected here.

- p 16. par. 3, bracket (In South Africa African).

- p 17. par. 5, line 3, nationalised to read rationalised.
- 17. par. 8, line 2, duplicate to read duplication

- p 18. CONCLUSION on page 19 to follow after par. 5 on page 18.
- 18. Section D. par. 4, line 3, insert "the" after since then,
- " par. 5, line 1, held to read hold.

- p 19. BIBLIOGRAPHY, line 2 to read (1942-44)

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